SAINTS OF SOUL
Sound that conquered America

VICTORIAN GRAVE ROBBERS
Body-snatching trend that terrified a nation

ALL ABOUT HISTORY

REAL HISTORY OF THE GLADIATORS
Brutal reality of Rome's most famous bloodsport uncovered

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From Difference Engines to Apple Macs

FUTURE
ISSUE 112

HOW TO BUILD A DYNASTY
The families who ruled Europe for centuries

PLUS KING TUT TREASURES SYMPATHY FOR CHAMBERLAIN? EARLY FIREARMS

AIRFIX

VINTAGE CLASSICS

INFANTRY 1:32 SCALE

WWII British Paratroops

Code: **A02701V**

In December 1940, the British 1st Airborne Division was created. Their distinctive mark was the maroon beret and a shoulder patch with Bellerophon astride the winged horse Pegasus.

WWII German Infantry

Code: **A02702V**

In the early stages of WWII the standard German infantry uniform consisted of a field jacket, trousers tucked into black leather jackboots, and the characteristically shaped helmet.

WWII U.S. Infantry

Code: **A02703V**

The US infantry regiment of World War II was a powerful, flexible infantry division. During the Battle of the Bulge in 1944/45 the infantry suffered high casualties, but managed to turn back the German army.

WWII U.S. Paratroops

Code: **A02711V**

The American airborne landings in Normandy were the first US combat operations of Operation Overlord. 13,100 paratroopers of the 82nd and 101st Airborne Divisions where dropped on D-Day

WWII German Paratroops

Code: **A02712V**

Paratroops were used decisively in the invasion of Norway and the Netherlands, reaching a peak in the conquering of Crete in 1941 where casualties were deemed to be unacceptably high.

WWII British Infantry

Code: **A02718V**

The British Infantry fought with courage and distinction in many theatres, but the freeing of occupied Europe was its biggest triumph.

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SCAN TO GET OUR WEEKLY NEWSLETTER

A third century mosaic of two gladiators leaping into combat, currently housed at the National Archaeological Museum, Madrid

Welcome

There are so many facets of life in Ancient Rome that can capture the imagination. Whether it's the stories of its famous rulers or details about how life in the powerful empire was lived, we have so much information about this civilisation that you can approach it from a myriad of perspectives. Among these is, of course, how the Romans entertained themselves and through this we get into one of the darker areas of Roman life, at least by modern standards. The world of the gladiators is another of those deeply engrossing aspects of ancient life, but interestingly it's one that is not always well understood.

This issue we wanted to address that gap in our knowledge and give you the inside story of what it was like to be a gladiator, why these fights to the death were so popular, and indeed whether or not they were really 'to the death' at all. We welcome Dr Christopher Epplett to give us his insight into this story. Elsewhere we also learn about how soul music conquered America, why grave-robbing became so popular in the late-18th and early-19th century, and we learn how the European royal families built their powerful dynasties.

Since this issue closes out 2021 for us, I also want to wish you all a Happy New Year and thank you for your support throughout this year. We really appreciate it. Enjoy the issue.

Jonathan Gordon
Editor

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ALL ABOUT HISTORY

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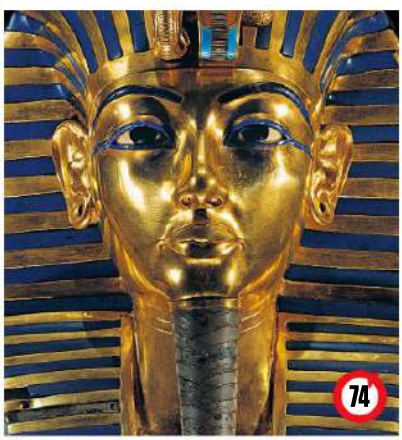

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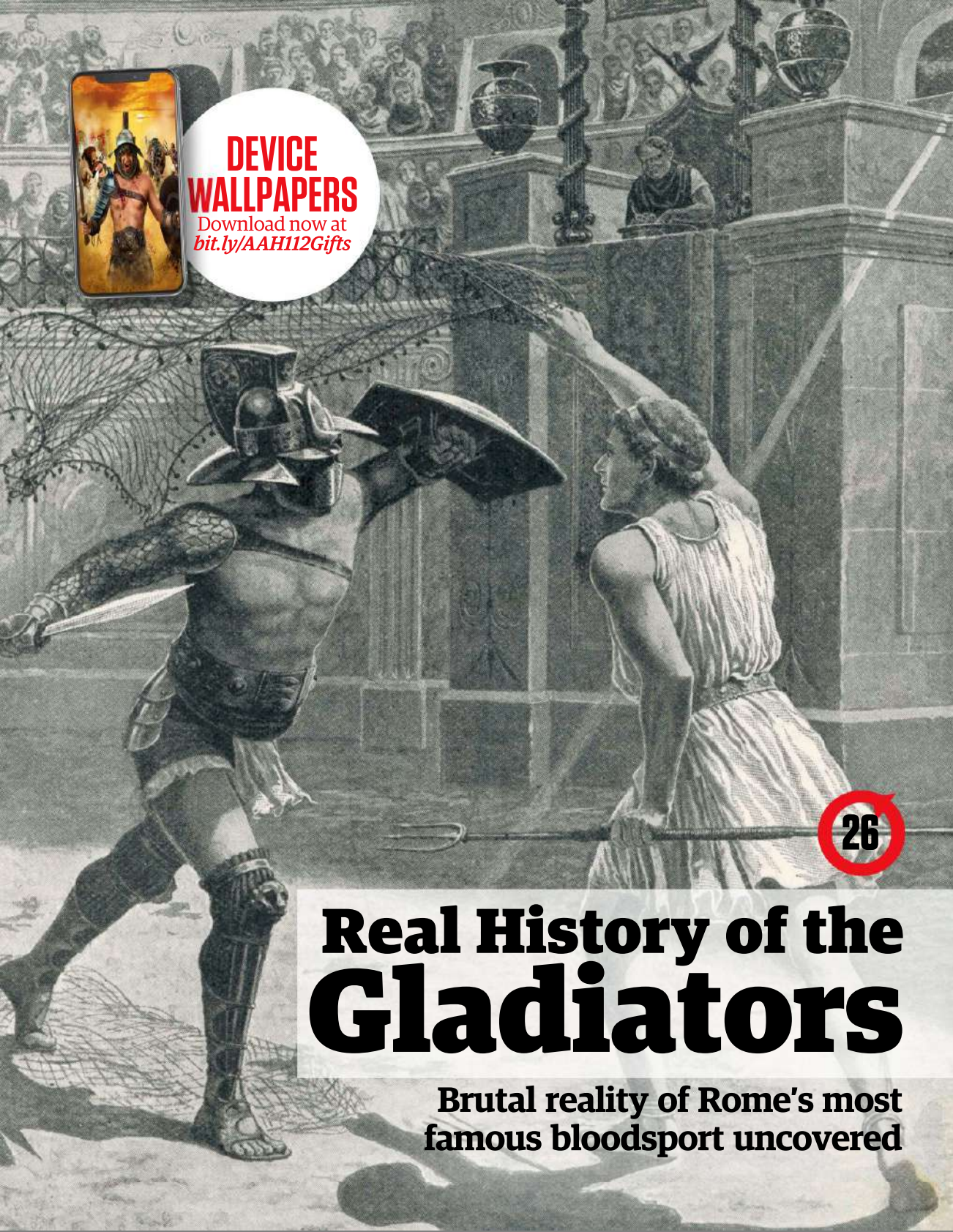

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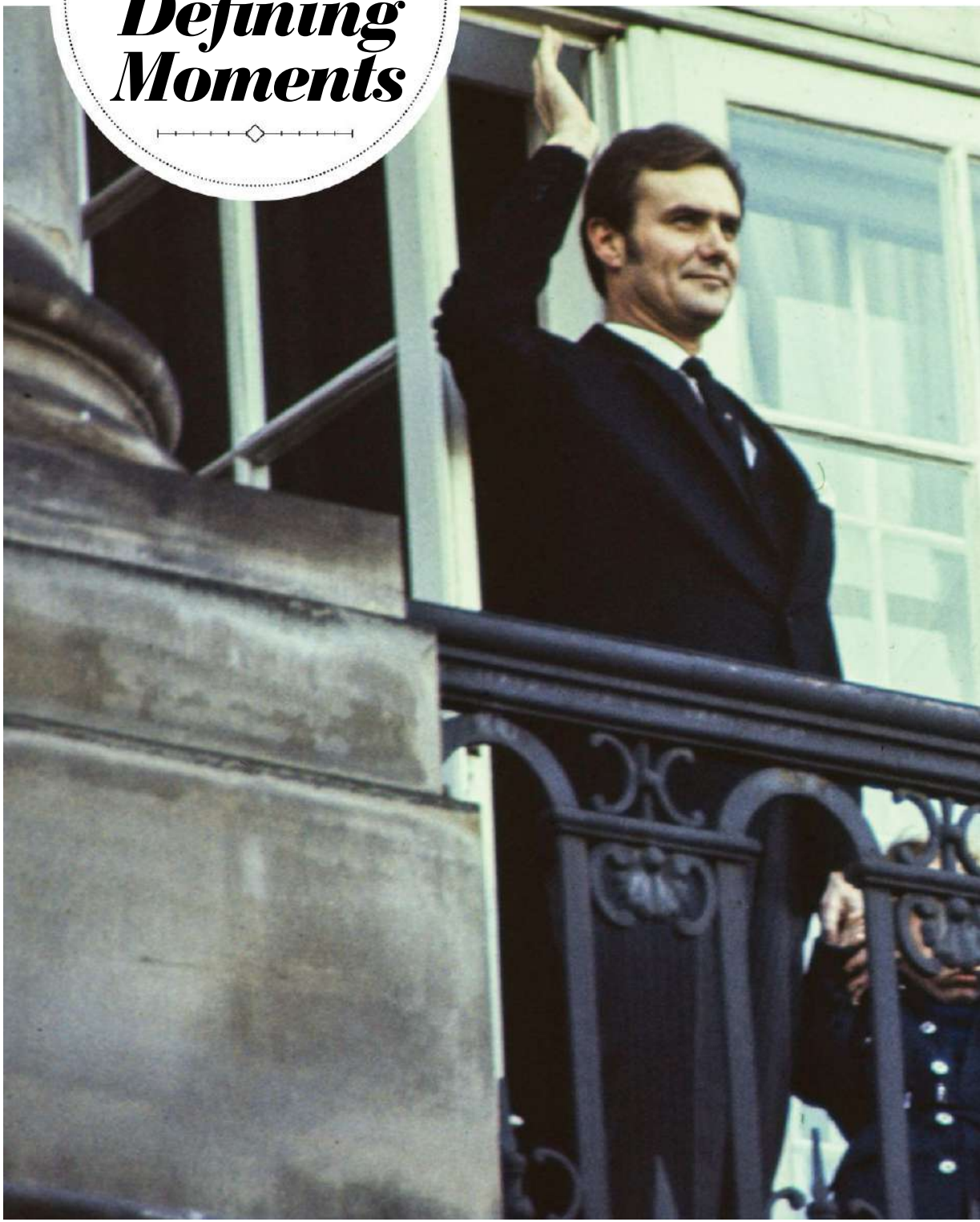
Real History of the Gladiators

Brutal reality of Rome's most famous bloodsport uncovered

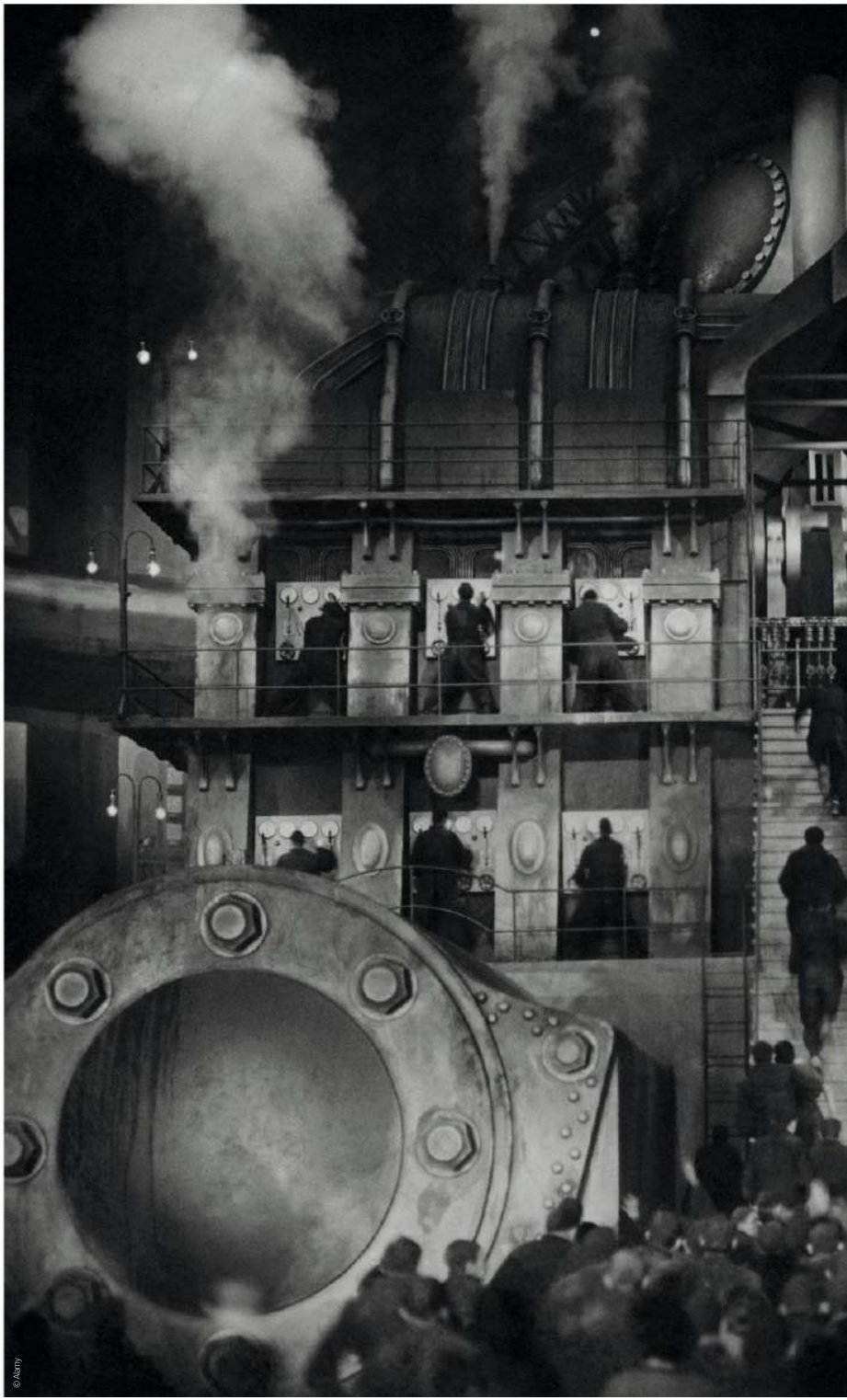
Defining Moments



14-15 January 1972

QUEEN MARGRETHE II ASCENDS THE THRONE

Queen Margrethe II succeeded her father, King Frederick IX, as the ruler of Denmark after he passed away on 14 January. Prime Minister Jens Otto Krag proclaimed Margrethe as queen the next day from the balcony of Christiansborg Palace. Margrethe is the first queen of Denmark since 1412 and the first Danish monarch since 1513 not to be named Frederick or Christian.



10 January 1927

FRITZ LANG'S METROPOLIS PREMIERES

The futuristic silent film *Metropolis* premiered in Berlin, Germany. The film, directed by Fritz Lang, went way over budget – costing around five million Reichsmarks – and took 15 months to shoot. Although it was criticised upon its release it's now widely regarded as the first great science-fiction film and one of the most influential films ever made.

DISCOVER THE INCREDIBLE HISTORY OF THE LAND DOWN UNDER

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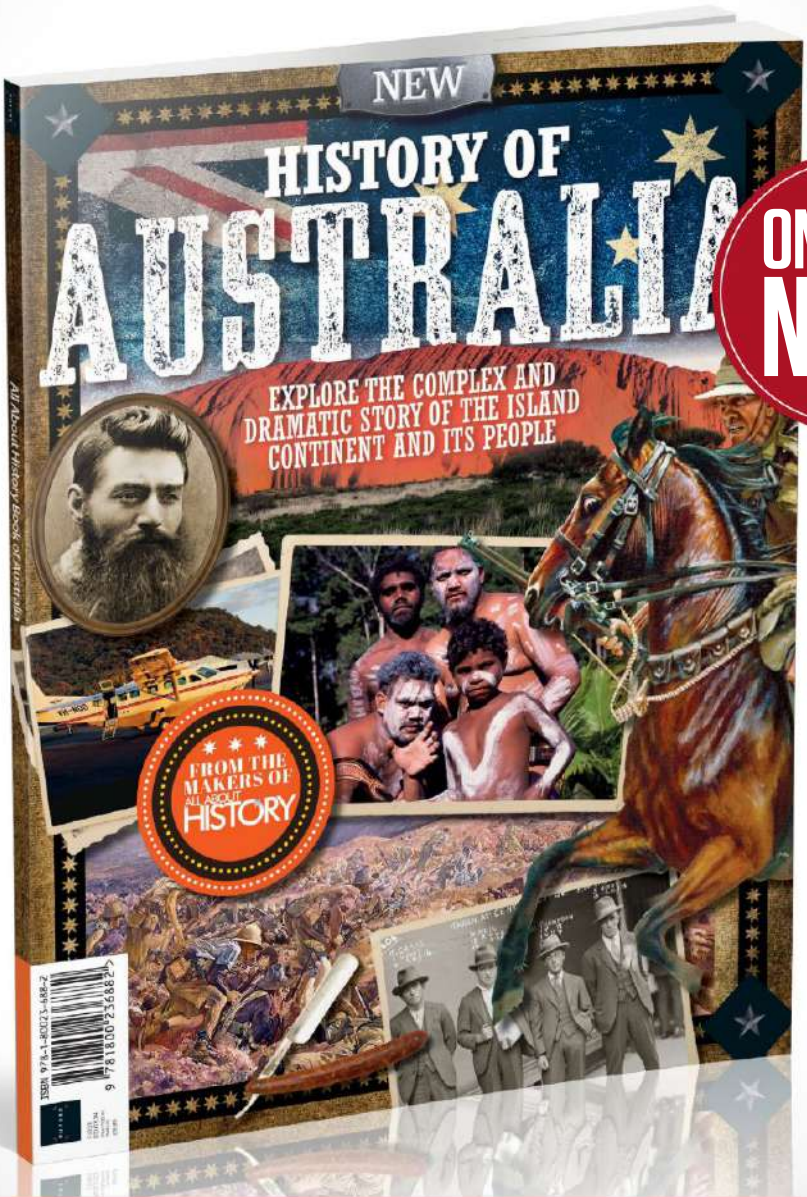
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ALL ABOUT FIREARMS

From the origins of gunpowder to the age of automatic rifles, we explore the long history of handheld projectile weapons

INSIDE A MUNITIONS FACTORY

ANATOMY OF A MUSKETEER

FAMOUS GUNSLINGERS

HISTORY OF GUNPOWDER

Written by Murray Dahm, Mike Haskew, Jessica Leggett, Katharine Marsh

Main image source: © Getty Images

Key Events

Although now known as 'Greek Fire', the ancients used many descriptors, none of which was 'Greek Fire'.

672 CE BYZANTINE FIRE

The Byzantine Empire uses Greek Fire in naval battles to shoot streams of fire at enemy ships. The recipe was a military secret but probably contained naphtha, quicklime, and other ingredients such as pine resin, calcium phosphide, sulphur, and nitre.

GREEK FIRE c. 360 BCE

Aeneas Tacticus records a recipe for 'inextinguishable fire' containing 'pitch, sulphur, tow, granulated frankincense, and pine sawdust' to be used during sieges.

FIRE ARROWS 904 CE

Gunpowder-powered arrows are used by the Southern Wu in the siege of Yuzhang. Using gunpowder containers attached to arrows, these later become synonymous with rockets.

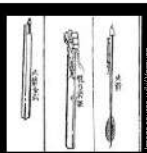


Image source: wiki/ Yoyoyo

BLACK-POWDER FIRE LANCE 950 CE

A silk banner from Dunhuang, China shows the earliest fire lance – a bamboo tube filled with black powder attached to the end of a spear.

424 BCE

672 CE

1298

Image source: wiki/ Pendeshkhers

INVENTION OF GUNPOWDER 808-858 CE

The earliest formula for gunpowder comes from two Tang dynasty China documents. The recipe: 'six parts sulphur to six parts saltpetre to one part birthwort herb.'

THE SLOW MATCH 919 CE

Invention of slow match or match cord in China. The gunpowder-infused cord will be essential for firearms until the 18th century.

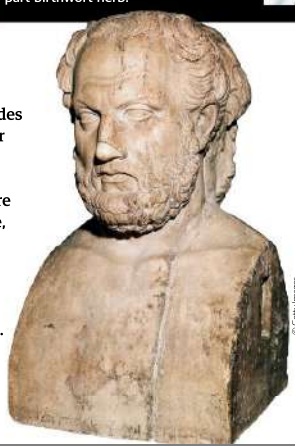
Image source: wiki/ Bill Nye's Comic History of England

GUNPOWDER REACHES EUROPE 13TH CENTURY CE

Whether through the Mongols in the 1240s or via the Silk Road, gunpowder is mentioned in European writings from 1267. The earliest recipe dates to 1280.

424 BCE THE BATTLE OF DELIUM

The historian Thucydides records a flamethrower device consisting of a pipe, iron snout and cauldron 'in which were coals of fire, brimstone, and pitch, raised to an exceeding great flame' used by the Boeotians against the Athenians on the walls of Delium.



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1298 XANADU GUN HAND CANNON

Although there is some earlier evidence, the oldest hand cannon dates to this year, found at Shangdu (Xanadu). The barrel is inscribed with the date. Hand cannons or 'gonnes' spread to Europe in the 14th century, becoming widely used.

The advances in musket technology were often fragile and expensive. Matchlocks remained in use well into the 18 century.

16TH CENTURY CE

WHEELLOCK TO FLINTLOCK

Improvements in musket technology were constantly sought. The wheellock used a friction-wheel to create a spark to ignite the powder in the flash-pan. It was replaced by the snaplock (1540s) and the snaphance (1560) and then the Flintlock by 1610.

18TH CENTURY CE

RIFLING AND THE RIFLED GUN

Cutting a helical groove into the inside of the barrel was found to make balls fly further and more true. They became popular hunting guns in the 18th century. They were slower to load but became the dominant firearm by the end of the 19th century.

THE EARLIEST EUROPEAN CANNON 1326

In a work for the future Edward III of England, an iron cannon is drawn, the pot-de-fer, the earliest depiction although cannons were becoming common.

THE MATCHLOCK 1465-1475

An innovation to the serpentine lever, the matchlock attached the slow match to a lockable clamp which lowered when the 'trigger' was squeezed.

THE DREYSE NEEDLE-GUN 1836

The first breech-loading, bolt action rifle was adopted by the Prussians who dominated their opponents in the mid-19th century. It combined several inventions – paper cartridge, percussion cap and bullet.

© Getty Images

14TH CENTURY CE

THE ARQUEBUS 15TH CENTURY

A long-barrelled gun (as opposed to a hand gun), the arquebus appears in the early 15th century and remains in use into the 16th century.

1411

16TH CENTURY CE

THE MUSKET 1521

A smoothbore, muzzle-loaded long gun, the heavy arquebus was known as the musket. This design remained the dominant form of personal firearm until the 19th century.

18TH CENTURY CE

FULLY AUTOMATED 1905-7

Winchester and Remington introduce semi-automatic rifles that fire a round with each squeeze of the trigger. The first successfully fully automatic rifle is the Chauchat, adopted by the French army.

14TH CENTURY CE

GUNS EVERYWHERE

Throughout Europe, firearms are being adopted and developed. Experiments in materials (such as wooden barrels) lead to new developments. Gunpowder is being made at the Tower of London and elsewhere from 1346. Improvements to the formula make gunpowder more powerful.

'Corning' was invented in the 14th century, drying gunpowder in small clumps which improved combustibility.

1411

THE FIRST TRIGGER

Earlier guns required the application of the slow match or flame to a touch-hole or flash-pan. The serpentine lever was attached to the slow match and squeezing it dropped the match to the pan – making aiming much easier.

Image source wiki/Rainer Lesniewski

Ex to Army

MUNITIONS FACTORY

United Kingdom 1914-18

During WWI, munitions factories were critical to the war effort, producing the weapons needed on the frontline. The Munitions of War Act was passed in July 1915 in response to the Shell Crisis of 1915, which saw a shortage of ammunition shells on the frontline. The Act was designed to increase munitions production to meet the demands of the British armed forces and led to the creation of the Ministry of Munitions.

One of the new initiatives that was introduced to boost production was to hire women to work in the munitions factories across the country, especially as men were needed to join the army. It is estimated that around one million women joined the munitions workforce, becoming known as 'munitionettes.'

The munitions factories were a hazardous place to work. Munitionettes were exposed to toxic chemicals such as the explosive TNT (trinitrotoluene), that could cause serious - and sometimes fatal - health problems. Women who worked with TNT frequently developed a yellow tint to their skin, earning them the nickname "canary girls."

Many women suffered life-changing injuries while using the heavy machinery in the factories and some munitionettes even lost their lives in explosions caused by the dangerous explosives that they were handling. Over 200 women are thought to have died as a result of accidents, poisoning or explosions. However, the true number is unknown because the government kept the stories out of the press in order to protect national morale.

When the men returned at the end of the war, many women were forced to leave their jobs, and many did not receive the equal pay that had been promised. Nonetheless, their vital contribution to the war effort fuelled the suffrage movement and forever changed the way women were viewed in society. It's worth noting that munitions factories varied during World War I, so this illustration is only representative.

MAKING AMMUNITION

Workers would use heavy machinery to make bullets and shells. However, they had inadequate protective clothing and were at risk of various injuries. For example, metal filings produced by the machines often caused eye injuries.

FURNACES

Munitions factories were fitted with furnaces to heat shells. Even though the women were given medical inspections in an attempt to keep the workforce healthy, the factories often had poor ventilation. This exacerbated the hazardous conditions created by the smoke and toxic chemicals in the factories.

FILLING SHELLS

Workers were tasked with filling ammunition and gas shells, with some munitionettes suffering from gas poisoning. To avoid sparks that could ignite the explosive chemicals they were handling, the women were also subjected to strict uniform regulations, such as the prohibition of wearing metal, on clothing or in the form of jewellery.

WORKERS' CANTEEN

The munitionettes would work long 12-hour days at the factory and often there was a canteen on site for them to eat their lunch. However, in reality most women got short breaks - lasting around 10 minutes - and they had to eat their lunch while carrying on with their work.

CHANGING ROOMS

The factories had changing rooms so that the workers could change into their uniforms for the day. There were also showers for the workers so that they could wash off the dangerous chemicals they had been handling before they went home.

FLOOR TRACKS

Working in the munitions factories involved a lot of physical labour. Tracks were installed on the floor, running in and out of the factory, allowing the munitionettes to transport heavy carts filled with raw materials, shell cases and finished ammunition.

FINAL TOUCHES

The munitionettes would use spray guns to create markings on the finished shells. The markings on the shell cases would indicate what chemicals were inside.

BOILER HOUSE

Munition factories had boiler houses attached to provide heating and lighting for the entire site. Some factories even had overhead power lines installed to provide electricity for the facility.

NURSERY

As thousands of women volunteered to join the workforce, many factories opened up nurseries so that mothers could bring their children with them. Some factories, for example the one at Gretna, built temporary accommodation for the munitionettes.

PACKING MUNITIONS

The munitions produced in the factories were given a final inspection by the workers. If they passed, then they would be packed into cases ready to be dispatched to the frontline. To make packing faster, the munitions would be moved using a conveyor belt.

Illustration by Adam Mann

MUSKETEER

The Netherlands c.1608

INFANTRY SOLDIER

Early modern warfare relied heavily on musketeers, and this musketeer would have served in the Dutch States Army. The Dutch infantry consisted solely of musketeers and pikemen after 1609, with a standard battalion consisting of 250 pikemen and 240 musketeers.

WEAPON OF CHOICE

The musketeers used a matchlock musket as their primary weapon, as their name suggests. Not all musketeers, however, received the same model of musket. Musketeers would shelter behind the pikemen when they needed to reload their weapons.

BACKUP OPTION

It was common for all infantry soldiers, including musketeers, to carry a sword. It was a standard piece of equipment for a musketeer that enabled them to take part in hand-to-hand combat if they needed to.

ESSENTIAL HEADGEAR

A helmet was a vital piece of equipment for a musketeer and offered protection when they went into battle. Because the helmets were purchased from all over Europe, there was a variety of designs used in different units.

DISTINCTIVE UNIFORM

Dutch musketeers wore red trousers and a blue cloth jacket during this period; the blue cloth was also exported to other countries. After 1618, however, many Dutch troops wore orange in honour of Maurice, Prince of Orange and his principality.

POWDER UP

Musketeers always carried a flask of powder for their firearms. The flasks could be made of iron, wood or leather, and the musketeer would sometimes control the flow of powder with a spring-loaded catch on the nozzle. Muskets required twice the amount of powder as caliver guns.

HEAVY FIREARM

Muskets were not light weapons, and several ordinances were passed in the 17th century requiring all musketeers to be issued a furket, a pole on which to rest their firearm. For the majority of the century, furkets were a standard part of the musketeer's equipment.

Illustration by Kevin McGivern

Historical Treasures

GOLD-INLAID COLT MODEL 1849 POCKET REVOLVER

Opulence and gunpowder come together in a deadly work of art
USA, c.1853

Samuel Colt made many firearms in his time – the Connecticut-born inventor was an innovator in his field, with his firm producing 16 different models before Colt's death in 1862. But there were a select few of these weapons that stood out among the rest. With exquisite engraving and gold inlay, it's no wonder that only about 20 of these revolvers were ever made, 16 of which were during Colt's lifetime.

The gold-inlaid Colt Model 1849 pocket revolver's design was first displayed at London's Great Exhibition in 1851, and then at the New York Crystal Palace Exhibition in 1853. It's easy to see why no one would want to actually fire it – a bear, dog, leopard, pheasant and fox adorn the frame and barrel lugs, each surrounded by gold-inlaid heads of mythical beasts. And it's easy to see why weapons such as these were often used as gifts to diplomats and heads of state. Tsar Nicholas I of Russia was given one at Gatchina Palace on 30 October 1854 by Colt himself, alongside a Third Model Dragoon revolver and Model 1851 Navy revolver. The revolver pictured below is thought to have been presented to a European dignitary while Colt made his way through Europe and Russia in the mid-19th century.

Six gold-inlaid models of this particular firearm are known to still be in existence. The one pictured here is currently with the Met museum in New York City, with the others in Los Angeles, the State Hermitage Museum in St Petersburg, Connecticut State Library and private collections.

The firearm itself, produced between 1848 and 1872, was one of the most popular in its normal state. More than 300,000 were made, with four-, five- or six-inch octagonal barrels. The revolver's size was its moneymaker – being so small, it was perfect for self-defence. Sales were certainly boosted during the Civil War in the 1860s, too.

WOODEN GRIP
The only wood found on the entire firearm is the grip. Walnut wood was used and ergonomically designed to fit the user's hand comfortably, providing adequate reach for the forefinger to reach the trigger.

FOR THE WAR HORSES
Although its popularity increased during the American Civil War, the regular version of this firearm wasn't favoured by soldiers. Its weight was counterproductive to the endless marching, especially with heavy military gear, army-issued long rifles and ammunition. But as an accurate short-distance pistol, it did have a place among cavalrymen.

GOLD-INLAID DESIGN
There is some debate about who was responsible for the intricate engravings and gold-inlaid design. Some suggest it was Waterman Lilly Ormsby, who founded the Continental Bank Note Company. Other possible names are Gustave Young, Herman Bodenstein and John Marr.

SINGLE-ACTION SHOOTER
The Model 1849 is a single-action firearm. This means that pulling the trigger once fires one round, and the shooter then has to manually cock the hammer to fire the next round This was the conventional design for revolvers in the 1800s.

© The Metropolitan Museum of Art

FAMOUS GUNSLINGERS

Introducing ten of the baddest, meanest and quickest draws in the Old West

Billy the Kid
1859-1881

By the time he was gunned down at the age of 21, Billy the Kid is said to have killed as many as 27 men. Orphaned at the age of 14, it wasn't long before the young man, then still known as Henry McCarty, turned to a life of crime. In 1877 in a Arizona saloon, he killed his first man, before becoming involved in a violent frontier war, and sought to avenge the death of his employer, shooting Sheriff William J Brady dead. He spent the next three years on the run, and although he was captured in 1880, he escaped a year later on the eve of his execution. However, Sheriff Pat Garrett had been hunting the Kid for some time, and tracked him to the home of rancher Peter Maxwell. As the Kid entered Maxwell's darkened bedroom, Garrett fired two rounds, shooting the outlaw dead.

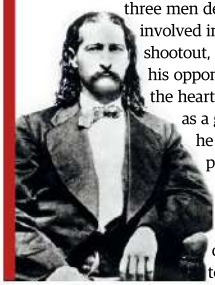
Billy the Kid was first arrested not for murder, but for stealing clothes from a laundry

BELLE STARR 1848-1889

Nicknamed 'The Bandit Queen', Belle Starr was a friend of Jesse James, and was married to no less than three separate outlaws. A notorious cattle and horse thief, she wore velvet skirts and plumed hats as she committed her crimes. Eluding the law for nearly a decade, she was captured in 1883 and spent five months in prison. Her murder in 1889 by an unknown assassin is partly responsible for her enigmatic reputation. She was said to refer to her Colt .34 Pistol as 'my baby'.

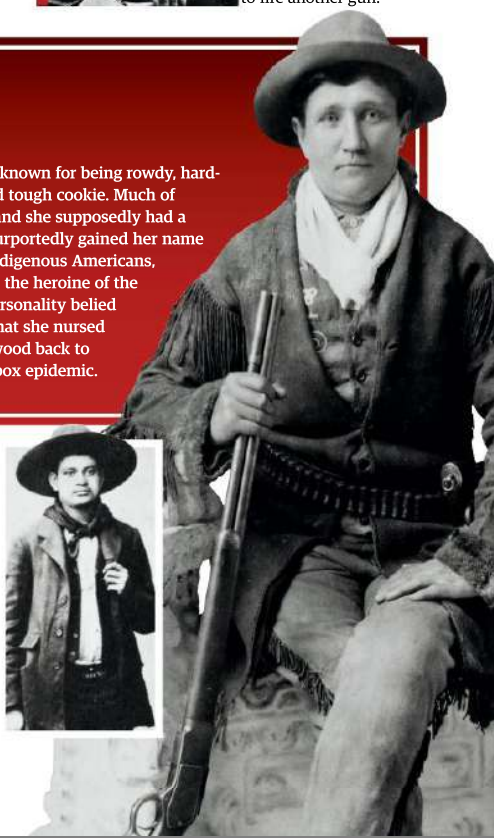
WILD BILL HICKOK
1837-1876

'Wild' Bill Hickok gained his reputation as a violent gunslinger in 1861 when he coldly shot three men dead. In 1865, he was involved in the original Wild West shootout, during which he shot his opponent, Davis Tutt, through the heart. Hickok's reputation as a gunslinger grew, and he worked as a travelling performer. He served as marshal in the town of Abilene, where he accidentally killed his deputy, and swore never to fire another gun.



Calamity Jane
1852-1903

No Doris Day, the real Calamity Jane was known for being rowdy, hard-drinking, sharp-shooting and an all-round tough cookie. Much of her life is shrouded in myth and legend, and she supposedly had a relationship with Wild Bill Hickok. She purportedly gained her name after rescuing a man from an attack by indigenous Americans, after which he named her 'Calamity Jane, the heroine of the planes'. However, her rough and tough personality belied a kind heart, and several accounts state that she nursed numerous residents of the town of Deadwood back to health during a particularly severe smallpox epidemic.



CHEROKEE BILL
1876-1896

Crawford Goldsby, better known as 'Cherokee Bill', was a notorious outlaw, with some historians believing he killed his first victim at the age of 12. Bill was captured and sentenced by Judge Isaac Parker. His appeal was hampered by an unsuccessful escape attempt, during which he killed a guard. He was sentenced for execution on 17 March 1896. When asked for any final words, he stated: "I came here to die, not to make a speech."

DOC HOLLIDAY
1851-1887

© Getty Images

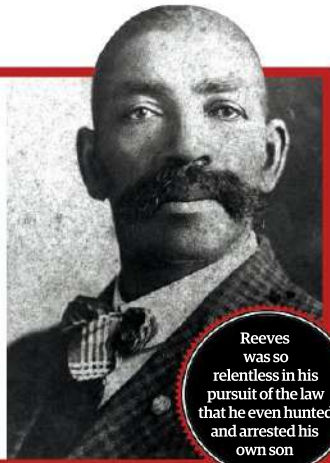
Born John Henry Holliday, he arrived with a cleft palate, so his mother spent hours refining his speech and instilling in him superb etiquette and southern manners. This charming persona belied a dark side as, much later in life, he was forced to flee Dallas on charge of murder. Moving to Tombstone, Arizona with his friend Wyatt Earp, he became involved in the infamous 'Gunfight at the OK Corral'. Despite his violent edge, Holliday became something of a folk hero, and his death in 1887 was met with a sense of loss.

JESSE JAMES
1847-1882

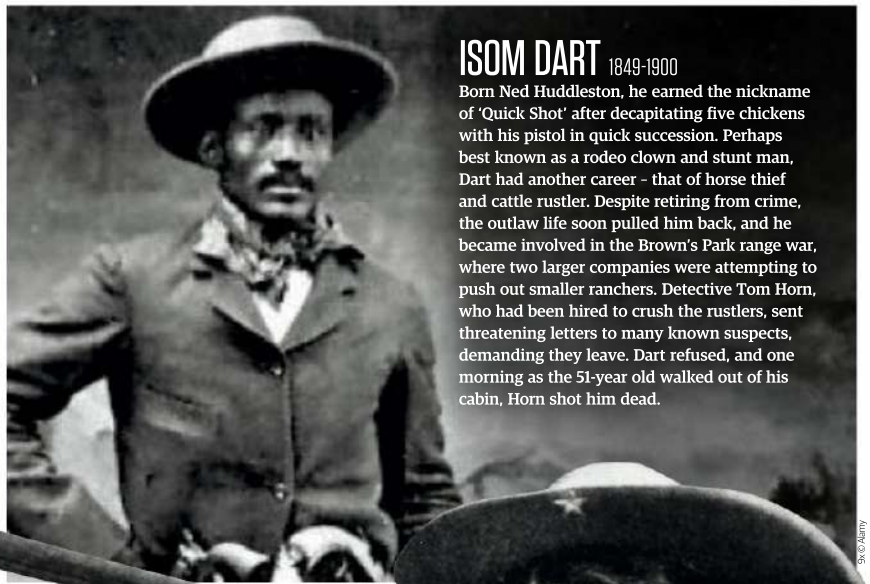
One of the most famous outlaws featured here, James was promoted by an influential pro-Confederate newspaper as something of a 'Southern folk hero' who robbed from the rich to give to the poor. However, there is no such evidence; the real James was a notorious bank robber and murderer. He was shot in the head at the age of 34 while dusting a picture on the wall.

Bass Reeves
1838-1910

Reeves was known for his ability to kill a man from a distance of up to a quarter a mile away using his preferred .44 Winchester Rifle. The first African-American lawman, Reeves worked under the infamous 'hanging judge', Isaac Parker. During his 32-year career, he killed 14 men, among them the infamous criminal Bob Dozier. Outlaw Tom Story foolishly attempted to beat Reeves to the draw, and was shot dead. In 1907, at the age of 69, he became patrolman for Muskogee City Police Department, purportedly never having a crime committed on his beat. Three years later, he would pass away from Bright's disease.



Reeves was so relentless in his pursuit of the law that he even hunted and arrested his own son



ISOM DART 1849-1900

Born Ned Huddleston, he earned the nickname of 'Quick Shot' after decapitating five chickens with his pistol in quick succession. Perhaps best known as a rodeo clown and stunt man, Dart had another career - that of horse thief and cattle rustler. Despite retiring from crime, the outlaw life soon pulled him back, and he became involved in the Brown's Park range war, where two larger companies were attempting to push out smaller ranchers. Detective Tom Horn, who had been hired to crush the rustlers, sent threatening letters to many known suspects, demanding they leave. Dart refused, and one morning as the 51-year old walked out of his cabin, Horn shot him dead.

© Alamy

Annie Oakley
1860-1926

Easily one of the most famous shooters in the Wild West, Oakley was known for her incredible sharp shooting and ability to hit almost any target. At the age of 15 she competed against noted marksman Frank E Butler. Winning the competition, Oakley then started courting Butler, marrying him in 1876. She began as Butler's assistant, but soon became part of the act, and eventually the show's headliner. The couple joined Buffalo Bill's famous Wild West Show, and performed for 16 years, Oakley encouraging the use of firearms by women. Following a train accident in 1901, Oakley retired from touring, though she made a brief return in 1923.

Oakley was eight years old when she made her first shot. She considered it one of her best for the remainder of her life

Q&A

THE ORIGINS OF GUNPOWDER

Professor Peter A Lorge explores China's experimentation with gunpowder and its evolution into a weapon of war

When was gunpowder first invented?
Our first document that we think mentions what will later become understood as gunpowder is from 808 CE and this appears in the Tang Dynasty. It's actually a warning to not combine certain ingredients together and heat them up, because they might burst into flames, burn off your beard and set your house on fire. We believe that is the first instance we have of somebody recording this set of things; we're talking about saltpetre, sulphur, and some source of carbon like charcoal. That's the first time we have that combination with those things in it, where someone's saying, this stuff is going to burst into flames. Then, the next certain document we have is a late 10th century bureaucratic document that lists a gunpowder section. So we know certainly that by the end of the 10th century, they know what they're making and that it's being made for military purposes.

Peter Lorge is associate professor of history and Asian studies at Vanderbilt University with a particular focus on 10th and 11th century Chinese military, political and social history. His books include *The Reunification of China* (Cambridge, 2015) and *Chinese Martial Arts* (Cambridge University Press, 2012).

What impact did the development of gunpowder have on Chinese warfare?
This is a curious issue because in the West the perception, with good reason, is that guns dramatically change Western warfare. In China, we don't see that dramatic change. I feel the reason for that is that gunpowder comes into being and guns are invented, which are two separate things, as part of what is already a large, centralised, bureaucratic state, which most of us would recognise as something like the early modern state. Guns come in very gradually into China, because they're doing all the experimentation, a lot of trial and error before we get something like the true gun. By the time these guns are used, they've spread to all sides of the conflicts and they're also not developed yet to the point where they're going to overturn the pre-existing power structures on battlefields. So the effect in China is not as dramatic, but then when it's transmitted across Eurasia in the 13th century into the early 14th century, when it hits Europe, the technology is already considerably more advanced.

How did gunpowder technology spread beyond China?
This is an interesting question. One of the major questions that I had when I went into the study, which I didn't resolve in my first book, was when did the Chinese realise that the only components that they needed in the gunpowder mixture are saltpetre, sulphur and charcoal? I know there's a 1290s text in Arabic in Syria, and it's part of the genre of Islamic texts on warfare and it has all these gunpowder recipes. Their gunpowder recipes in 1290 are only those three components. And they explain how to get ready to get saltpetre. They insist that they did not get this gunpowder recipe from the Mongols, which was a big issue for them and I think what happened was,

BELOW An example of a rudimentary Chinese hand gun from the 13th century, made from iron

Headshot source: Peter Lorge

ABOVE An early illustration of firearms, featuring a fire lance and a grenade depicted in the top right of the image from the 10th century

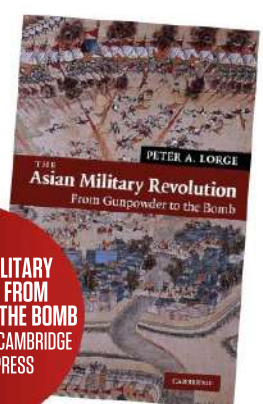
it was transmitted via southern trade routes around India and then into the Middle East. Sometime in the late 13th century at the latest, it moves across Eurasia and gets to the rest of the world.

What are the earliest examples of gunpowder being used in handheld devices that we know of?

The earliest gunpowder recipes come out in a text that is dated 1044 and it actually has three gunpowder recipes and one sort of poison gas recipe. In that 1044 text, they have weaponised the gunpowder. We don't know for sure that someone's using it. If you want direct evidence it's the early 12th century, where we have an example of a siege on this one city. And some guy says, 'Okay, we're going to take this bomb powder and we're going to put it into the ends of these tubes, and we're going to ignite it and use it to burn things'. The first concrete evidence of a handheld gun is about 1250. By the end of the 13th century, we have mass produced handheld guns, and these are fairly small, six or eight inches.

In your opinion, what is the biggest misconception about the history of gunpowder?

With respect to China, it's this notion that the Chinese didn't understand the military potential, and that they themselves did not really exploit gunpowder. You'll get this constant thing, which is that the Chinese were looking for immortality and they got guns; they accidentally invented gunpowder, and they only used it for fireworks. In fact, not only do they realise the use of this for war almost immediately, they invent the gun, not just gunpowder. The gun has no other use, particularly its earliest forms, except to kill people and only to kill people in a military context because they're very inaccurate. So what's very important for me in the larger context is that China has a military history and that as part of that military history they invented gunpowder, and the gun, and they used it militarily to kill people from as soon as they had it. There's no gap where they had this technology and they didn't know about what it was used for, it then went to Europe, they figured out how important it was and brought it back. The Chinese were very well aware of the military and lethal uses of gunpowder.



THE ASIAN MILITARY REVOLUTION: FROM GUNPOWDER TO THE BOMB IS OUT NOW FROM CAMBRIDGE UNIVERSITY PRESS

FIREARMS & ARMOURIES MUSEUMS

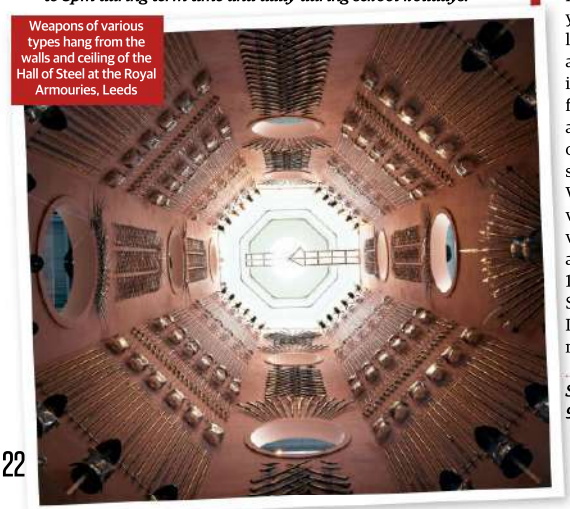
These museums house some of the world's finest collections of firearms and related artefacts

1 ROYAL ARMOURIES

- LONDON, WHITE TOWER
- FORT NELSON, PORTSMOUTH, HAMPSHIRE
- LEEDS, WEST YORKSHIRE, ENGLAND

Collectively, the three locations of the Royal Armouries serve as the national museums for the United Kingdom collection of arms, armour and other related artefacts. The Tower of London, constructed by order of William the Conqueror in the 11th century, was the original armoury location and served the kings of England with the manufacture and storage of armour and weaponry. By the 17th century, portions of the Tower were also opened to the public as a museum, as patrons were allowed to visit displays of armour belonging to English monarchs and relics of the Spanish Armada that had been defeated near England's shores in 1588. Today, the White Tower continues as a museum, while the Royal Armouries Museum of Artillery, located in Portsmouth, England, opened in 1988. The Royal Armouries Museum, Leeds, opened to the public in 1996 and houses much of the national collection, including weapons and armour from the Tudor period through World War II and the 21st century.

- *White Tower is open Tuesday to Sunday 10am to 5pm during term time and daily during school holidays.*
- *Royal Armouries, Portsmouth is open Wednesday to Sunday 10am to 4pm during term time and daily on school holidays.*
- *Royal Armouries, Leeds is open Wednesday to Sunday 10am to 5pm during term time and daily during school holidays.*



Weapons of various types hang from the walls and ceiling of the Hall of Steel at the Royal Armouries, Leeds

2 SPRINGFIELD ARMORY NATIONAL HISTORIC SITE

SPRINGFIELD, USA

A Springfield Armory rack of muskets, called an organ in reference to a Henry Wadsworth Longfellow poem, contains 641 Model 1861 rifles with capacity for 1,100

The Springfield Armory was the first centre of military firearms manufacturing in the United States, and a primary source of small arms during operations from 1777 through the American Revolution until its closure in 1968, nearly 200 years later. Today, an expansive museum is located in the three-story main arsenal building at Springfield Armory National Historic Site and includes the largest collection of US military firearms in the world. The museum is easily accessible and located on the first floor, while offices of the National Park Service and firearms storage occupy the second and third floors. Visitors stroll through galleries associated with various aspects of weapons manufacture and view displays featuring muskets, rifles, pistols, and automatic weapons that date from the mid-18th century through the closing of the armoury. Exhibits describing the iconic Springfield Model 1903 bolt-action rifle and the development of the World War II-era M1 Garand are of particular interest. Video and animation complement a number of the exhibits.

Springfield Armory National Historic Site is open Wednesday through Sunday from 9.30am to 4pm; closed Monday, Tuesday and holidays.

The massive 890mm Tsar Cannon is one of the prime attractions at the Kremlin Armoury Museum in Moscow

3 KREMLIN ARMOURY MUSEUM
MOSCOW, RUSSIA

The Kremlin Armoury began operations in the 16th century as a collection of royal workshops where gunsmiths and icon artists produced master works for the tsars and their families. The home of Nikita Davydov and the Vyatkin Brothers, famous Russian gunsmiths of the 17th century, the armoury underwent a transformation during the reign of Peter the Great, and in 1806 Tsar Alexander I signed the decree that formally established the museum that exists to this day. Visitors experience the grandeur of the Russian royals in their personal belongings, displayed along with ancient treasures of the aristocracy.

The current armoury building was constructed in 1851 and is a component of the Moscow Kremlin Museums. One of the most famous attractions is the massive Tsar Cannon; completed in 1586, the 890mm gun weighs approximately 40 tons and is the largest weapon of its kind in the world. A total of 800 artillery pieces make up the armoury collection, ranging from trophies taken in battle to heavy guns that defended the country from the 16th to the 19th century. The guns are displayed along the southern and eastern facades of the arsenal building and along nearby Ivanovskaya Square.

The Kremlin Armoury Museum is open daily except Thursday from 10am to 5pm during the winter months and 10am to 6pm during the summer months.

4 KUNSTHISTORISCHES MUSEUM WIEN
VIENNA, AUSTRIA

Perhaps the most thoroughly documented collection of arms and armour in the Western world is housed at the Kunsthistorisches Museum Wien in Vienna, Austria. Because of the close ties of the Habsburg family to the crowned heads of Europe, virtually every prince of Europe from the 15th century forward is represented in the collection of armour and ornamental weapons in the museum's galleries. Objects on display include weapons of the Habsburgs and their rival royal families from across western Europe, the Middle East and the Orient, and military heroes throughout Europe are also well represented. Among the suits of armour, numerous unique and fascinating creations by famous masters may be seen, such as Armour for a Horseman by Tommaso Missaglia, and the Boy's Folded Skirt Armour by Konrad Seusenhofer for future Emperor Charles V. Swords, crossbows, shoulder firearms and pistols spanning more than six centuries are on display as well, completing a comprehensive history of firearms and military equipment through the centuries.

The Kunsthistorisches Museum Wien in Vienna, Austria

Kunsthistorisches Museum Wien is open daily from 10am to 6pm and Thursday from 10am to 9pm. Holiday hours vary.

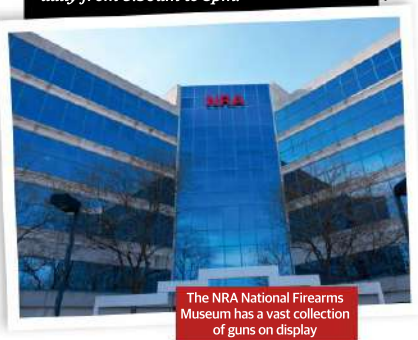
5 NRA NATIONAL FIREARMS MUSEUM
FAIRFAX, USA

Established in 1935, the National Rifle Association National Firearms Museum includes 15 galleries with 85 display cases containing 3,000 firearms. The facility includes displays that span 700 years of firearms history, particularly emphasising the American experience. Among other displays, the galleries include information on the early European settlement in North America at Jamestown, Virginia, the development of the gunmaking enclave in New England during the 18th and 19th centuries, and a shell damaged town square somewhere in French Normandy during World War II. The stories of the contributions of firearms to the maintenance of freedom, as well as their use in providing security and sustaining settlers in early America are told along with the processes of firearms manufacturing.

Opened in 2010, the Robert E Petersen Gallery is considered by many to be the finest single room of guns in the world. It features rare British double rifles and shotguns, exquisitely engraved masterpieces, and the world's largest publicly displayed collection of Gatling guns. A popular attraction is the Hollywood Guns exhibit in the William B Ruger Gallery, where 120 guns used in film and television during the last 80 years are on display, including Mel Gibson's Beretta pistol from *Lethal Weapon*, Clint Eastwood's .44 Magnum Smith & Wesson from *Dirty Harry*, the Barrett .50-calibre sniper rifle from *The Hurt Locker*, and many more.

The National Firearms Museum is open daily from 9.30am to 5pm.

All images: © Alamy



The NRA National Firearms Museum has a vast collection of guns on display

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REAL HISTORY OF THE GLADIATORS

Brutal reality of Rome's most famous bloodsport uncovered

Written by Dr Christopher Epplett

One of the most well-known legacies of Ancient Rome is the spectator events of the arena, in particular gladiatorial contests. Some may be familiar with Roman institutions such as the Plebeian Council or the Centuriate Assembly, but almost everyone has heard of the gladiators and the Colosseum. This is due in no small part to Hollywood blockbusters like *Spartacus* and *Gladiator*. The historical accuracy of most of these cinematic depictions, however, often leaves something to be desired and there are many aspects of the gladiatorial phenomenon that are commonly overlooked in popular culture.

One topic of debate among historians has been the origin of gladiatorial contests. Such combat existed in Italy prior to its emergence in Rome, but a consensus beyond this has been difficult to achieve. Some researchers argue that gladiators originated in the Etruscan society of north-central Italy, a belief based largely upon ancient testimony that the term 'lanista', the standard Roman word for a gladiatorial trainer, was Etruscan in origin. However, the preponderance of available evidence seems to support the idea that gladiatorial combat originated among the Campanians of south-central Italy. A series of late 4th century BCE tomb-paintings from Campania, for example, depict duels between armed men reminiscent of later gladiatorial combat in Rome. And the Roman historian Livy records that Rome's Campanian allies during the same period were in the practice of dressing up gladiators in the armour of their enemy, the Samnites, and forcing them to fight duels to entertain guests at banquets.

EXPERT BIO

DR CHRISTOPHER EPPLETT

Dr Epplett teaches history at the University of Lethbridge in Canada, with a focus on ancient military and social history, particularly in the Roman world. His books include *Gladiators: Deadly Arena Sports of Ancient Rome* and *Gladiators and Beast Hunts.*

©iStock Photography/Chris Youla

The earliest recorded gladiatorial duels in Rome were staged in a funerary context, a far cry from the later massive spectacles of the Colosseum. In 264 BCE, for example, the sons of Decimus Junius Brutus staged a combat involving three pairs of gladiators in the Forum Boarium ('Cattle Market') for their deceased father. In these early funerary events the fighting skill of the participants, as well as the blood they spilled, was meant to honour the deceased, an obligation that those staging such events were happy to fulfil. This idea of family obligation towards dead relatives, or the obligation of later Roman magistrates to stage combat events for thousands of spectators, was central to such contests. In fact, one of the most common terms used for the spectacles of the arena, 'munus' ('munera' in the plural), means 'duty'.

Illustrations by Joe Cummings

ROME'S MOST POPULAR SPORTS

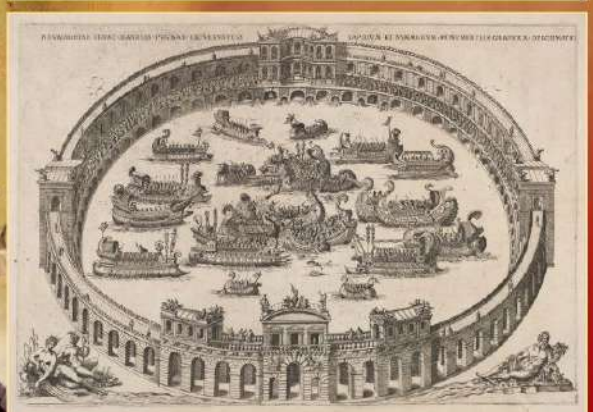
The great arenas of Ancient Rome hosted all manner of spectacular - and often lethal - events that drew massive crowds

WILD BEASTS

Roman crowds would start their day out at the arena watching huntsmen showing off their skills. Exotic wild beasts from the far-flung corners of the Roman Empire, such as elephants and lions, would also be thrown together in combat. Arenas would be decorated with trees and shrubs to enhance the bloodthirsty spectacle. Audiences also liked watching men being pitted against these animals, and huge crowds flocked to see convicted criminals getting mauled to death.

CHARIOT RACING

Chariot racing was one of the few sports women were permitted to watch. Up to 150,000 people would pack the long, narrow Circus Maximus on Palatine Hill as teams of charioteers risked life and limb completing seven anti-clockwise laps. Chariots would typically be pulled by four horses but in some races more were used. A typical race would feature 12 chariots and fatal accidents were commonplace as the riders jostled for position. Crashed chariots were referred to as 'naufragia', which translates as 'shipwrecks'.



SEA BATTLES

The huge space of the amphitheatres would be flooded with water to stage gigantic naval battles. This took place at both the Colosseum and Circus Maximus, where small ancient vessels would battle it out. It tapped into the Roman love of a great spectacle and appealed to an emperor's penchant for showing off. The men who fought were called 'naiunachiarii' and they were mostly captives or condemned criminals.

4k/iS/Getty Images

ABOVE Scene from a 4th century BCE south-Italian tomb-painting depicting two warriors. Such evidence has led many scholars to propose gladiatorial combat originated in the Campanian area

Gladiatorial events gradually became larger and more popular in Rome over the succeeding decades. A truly decisive point in terms of their scale appears to have been reached with the disastrous defeat that the Carthaginian general Hannibal inflicted upon the Romans at Cannae in 216 BCE during the Second Punic War. The deep insecurity that the Romans felt in the aftermath of Cannae evidently led them to desire seeing more and more gladiators, who could be thought of as symbolising their opponents on the battlefield, killed for their entertainment. Certainly, the size of gladiatorial events grew dramatically in the period after Cannae: in the same year as the battle three days of funerary games staged for a certain Marcus Aemilius Lepidus in the Roman forum featured 44 gladiators, while in 183 BCE an event of similar duration dedicated to Publius Licinius involved 120.

As might be expected, the earliest gladiators reflected the groups and ethnicities against which Rome was currently fighting or had recently fought: the 'Samnite' type, followed by the 'Thracians' and 'Gauls', broadly reflected the course of Roman territorial expansion in the Republic. The weapons and armour borne by these types of gladiators, of course, reflected to a degree the equipment used by their namesakes. The characteristic weapon of the 'Thracian' gladiator, for example, was a type of curved sword that was native to the lower Danube region.

> "THE DEEP INSECURITY THAT THE ROMANS FELT IN THE AFTERMATH OF CANNAE EVIDENTLY LED THEM TO DESIRE SEEING MORE AND MORE GLADIATORS"

Gladiatorial combat, however, was not the only form of violent spectacle that enjoyed popularity during this period. The venationes, or beast-hunts, also became a staple of Roman arena events beginning in the early 2nd century BCE. Like the gladiatorial contests, these spectacles were not entirely a Roman invention, but evolved from precedents found elsewhere. One such forerunner was the widespread cross-cultural custom of rulers displaying and/or hunting various exotic animals as a demonstration of their alleged mastery over nature.

The Romans staged a procession of exotic animals in 275 BCE and another 25 years later, both of which featured spoils of war: namely, the war elephants that the Romans had recently captured from Pyrrhus and the Carthaginians. Over the succeeding decades such processions, staged in venues like the Circus Maximus (the great chariot-racing stadium of Rome), were ever more frequently organised in peacetime as well. By the end of the 3rd century BCE, displays of African animals like ostriches had become quite common.

The fate of the animals involved in these early processions is not certain. The first explicitly attested venatio in Rome, in which animals were not merely displayed but also killed for the public's amusement, occurred in 186 BCE when Marcus Fulvius Nobilior staged such an event to celebrate his recent military victories. The factors behind Nobilior's decision to introduce a violent element into his animal spectacle are not certain. It may be that contemporary Romans, increasingly enamoured of bloody entertainment, found non-violent animal processions somewhat boring in comparison.

The dramatic expansion of Rome in the last two centuries of the Republic provided ample scope for the further growth of such events. The tens of thousands of military prisoners captured by the Romans during this period were a ready source of forced recruits for the arena. Similarly, the annexation of territory in such regions as Asia Minor, Syria and north Africa provided ready access to a large number of exotic animals such as lions, thereby allowing spectacle organisers (editores) to increase further the variety and resultant popularity of their events.

As the arena spectacles grew in both scope and popularity, the various aspects of their production gradually became more organised. By the late Republic, for example, Roman magistrates staged munera on a regular basis, often as a means of securing popular support for upcoming elections in the city. By the late Republic several ludi, or training-schools for the arena, were owned by wealthy Romans, along with various familiae, groups of gladiators and their requisite support and training personnel. It was these groups that supplied the

BELOW Depiction of a fallen gladiator being removed from the arena

This detail from a Roman mosaic depicts a secutor (left) in combat with a retiarius. Behind them stands the referee with his stick, ready to punish any rule infractions

massive late-Republican spectacles of prominent Romans like Pompey and Julius Caesar. The most famous of these Republican ludi was located at Capua in southern Italy, from which Spartacus and his followers escaped and began their insurrection against the Roman state in 73 BCE.

At the same time as the organisation and infrastructure of arena spectacles became more sophisticated, the structures in which they were staged gradually became more elaborate as well. The earliest gladiatorial and animal events in Rome were staged in venues originally built for other purposes, which offered ample space and/or seating. Venationes and other animal events were commonly staged on the level track of the Circus Maximus that ran around the arena for chariot racing, while gladiatorial contests often took place in the open space of the Roman forum. In the last two centuries BCE, alterations and additions were made at both of these locations to facilitate such events. Iron animal cages, for example, were added to the Circus Maximus, while wooden balconies known as maeniana were added to a number of buildings surrounding the open space of the Roman forum for the convenience of spectators attending the events.

The building most associated with the Roman munera, of course, is the amphitheatre. The earliest stone amphitheatre in Italy, dating to approximately 70 BCE, is found not in Rome, however, but in Pompeii. One of the main reasons why no amphitheatres predating the Colosseum exist in Rome today is that, because of a longstanding senatorial ban on the building of such permanent spectator venues during the Republic, many of the structures that were erected for various munera during that period were temporary.

> "JULIUS CAESAR STAGED A COMBAT BETWEEN CAVALRY, 40 ELEPHANTS AND ABOUT 500 INFANTRY IN THE CIRCUS MAXIMUS"

The growth of the munera over the last few centuries of the Republic culminated in the spectacles of Caesar. As part of his quadruple triumph in 46 BCE, Caesar staged a combat between cavalry, 40 elephants and approximately 500 infantry in the Circus Maximus, as well as both venationes and gladiatorial

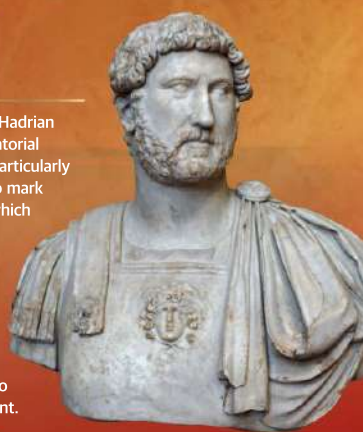
EMPERORS IN THE ARENA

The glamour of victory might have enticed even the most powerful men in Rome

CALIGULA

Reign: 37-41 CE

The reign of Caligula is an infamous chapter of Roman history, although contemporary records are rather biased against the emperor, making it hard to decipher fact from malicious fiction. One story about Caligula claims that when those accused of treason were sentenced to public execution he sometimes fought them as gladiators.



HADRIAN

Reign: 117-138 CE

Like many emperors, Hadrian was a big fan of gladiatorial games and put on a particularly extravagant display to mark his 43rd birthday in which hundreds of animals were slaughtered and gifts were thrown into the crowd. Hadrian also took part in some staged fights in which there was no risk of death to himself or his opponent.

COMMODUS

Reign: 177-192 CE

Most famously portrayed in the film *Gladiator*, Commodus did indeed venture into the arena to show off his prowess with a blade. Rather than taking on prominent gladiators, however, he preferred to face off against beasts or fighters who would immediately submit to him after receiving a wound.

munera in the Roman forum. For the latter events, he not only erected a temporary 'hunting-theatre' in the middle of the forum but even had a number of subterranean galleries built beneath it. These galleries held the animals and equipment that were to be used in the spectacle above. Caesar also put on a massive naumachia, or staged naval combat, involving thousands of prisoners of war, in an artificial basin that was probably located in the Campus Martius.

It was under Rome's first emperor, Augustus, that the pattern was largely set for the subsequent munera of the Empire. First, the staging of arena spectacles basically became the exclusive preserve of the emperors, their family members and their close associates. Augustus, after the recent civil wars that had spelled an end to the Republic, realised the danger of a potential usurper using such events to build up his public support, and thereby sought to ensure that only the emperor and his inner circle would reap the popularity gained through staging munera. In addition, the typical sequence of events in a given day's entertainment had become established by the end of his reign: a typical day's munera would feature venationes in the morning, criminal executions during the midday pause and gladiatorial contests in the afternoon.

The early Empire also witnessed a much greater variety of gladiator types, which no doubt increased the enjoyment of contemporary spectators. With the sense of security brought to Rome by Augustus, previous gladiator types, like the 'Samnites' and 'Thracians', which had represented Rome's past enemies, declined in popularity. New gladiatorial variants came to the fore, distinguished by their differing fighting styles and/or unique equipment. The murmillones ('fish-fighters'), for example, were evidently so named because of the fish motifs that decorated their ornate helmets. The two most popular types of gladiators under the Empire, often pitted against each other because of their complementary fighting styles, were the retiarii ('net-fighters') and secutores ('followers'). Unlike other gladiators, the retiarius wore virtually no armour. Instead, he depended upon his speed and agility for survival. The standard tactic of the retiarius was to try and entangle his slower-moving adversary in his throwing-net (rete) and then finish him off with his trident. The secutor, who was armed in a more conventional manner, was so named because of his tactic of stalking his opponent around the arena floor, looking for an opportunity to slip in close and attack with his sword.

Important changes were also made to the infrastructure of the munera under Augustus and his successors. First, the emperors owned familiae across the Empire with which they stocked the spectacles. Periodic mention is found in extant Roman inscriptions of the procurators and other officials entrusted with various aspects of these groups and their upkeep. Closely associated with such familiae were the arena training schools built in the heart of Rome under the Empire, most notable the Ludus Magnus ('Great School') and the Ludus Matutinus ('Morning School').

RIGHT This gladiator helmet made from bronze was discovered in Pompeii

BELOW Animals were frequently thrown into the arena to be killed

SV/Getty Images

ENTER THE GLADIATRIX

The reality of women in the arena

This 1st or 2nd century CE relief sculpture (above), from the city of Halicarnassus in the Greek-speaking eastern Empire, is clear evidence that the popularity of female gladiators was not limited to Rome alone. 'Amazon', on the left, is depicted in combat with 'Achillia' on the right. The Greek word above them, 'apeluthesan' ('they were released'), suggests that the two combatants fought to a draw.

As was common in gladiatorial munera, the prowess of the fighters in this instance was likened to that of famous figures of myth. The name 'Amazon', of course, recalls the famed female warriors of Greek legend, while the name 'Achillia' is the female form of the name Achilles, the latter being the mightiest of the Greek heroes who fought in the Trojan War. One of Achilles' most notable exploits was killing the Amazon queen, Penthesilea, in single combat outside the walls of Troy, and the duel in Halicarnassus may have been intended to remind spectators of that famous combat from Greek myth.

The term 'gladiatrix' is a modern one as there does not appear to be a Latin term for female warriors from this era. The contemporary opinion on women warriors was mixed, however, with some commentators such as Juvenal claiming it shamed the women involved. It seems some rulers agreed as bans on female gladiators were frequent, such as that imposed by Septimius Severus in 200 CE.

The former was the principal training facility for gladiators in the city, while the latter, so named because the venationes were normally staged in the morning, was designed for the training of beast-hunters and their animal charges. The date when these schools was built is not certain, but the available evidence suggests that they may have been constructed during the Flavian dynasty (69-96 CE). In such a case, the construction of these ludi would have been closely connected with the building of the most famous structure erected in Rome under the Flavians: the Colosseum. Interestingly enough, the basements of both the Ludus Magnus and Ludus Matutinus appear to have been connected by corridors to the nearby amphitheatre, which would have facilitated the movement of performers and equipment prior to a show.

The building of the Colosseum was a great coup for the Flavians: not only did it fulfill a long-standing need for a permanent amphitheatre in Rome befitting the capital of an empire, but it also served as a wildly successful public relations gesture for the new dynasty. Prior to the Flavians' rise to power, its site had been occupied by an artificial lake on the grounds of the previous emperor Nero's magnificent private estate, the so-called Domus Aurea ('Golden House'). When the first Flavian emperor, Vespasian, took the throne in 69 CE he hit upon the idea of taking the space in the heart of Rome that Nero had selfishly reserved for himself and opening it up to the public in the form of a massive new amphitheatre. The new facility took its most common name, the Colosseum, from the colossal statue that originally stood beside it. During Nero's reign, this statue had borne his likeness, but after his downfall the image of the hated former emperor was erased and replaced with the more acceptable

> "THIS MAGNIFICENT NEW ENTERTAINMENT STRUCTURE IN THE HEART OF ROME WAS THE PINNACLE OF AMPHITHEATRE DESIGN"

visage of the sun god, Sol. Fortunately for Vespasian, when he decided to begin this massive construction project, the large amount of money needed was not an issue. As an extant inscription informs us, booty seized from the recent suppression of the Jewish revolt against Roman authority was devoted to this undertaking.

This magnificent new entertainment structure in the heart of Rome represented

Chariot races were another hugely popular sport in the Roman arenas
© Getty Images

ABOVE The remains of the Colosseum in Rome. The galleries of the basement (hypogeum) in the centre once held almost 200 animal cages

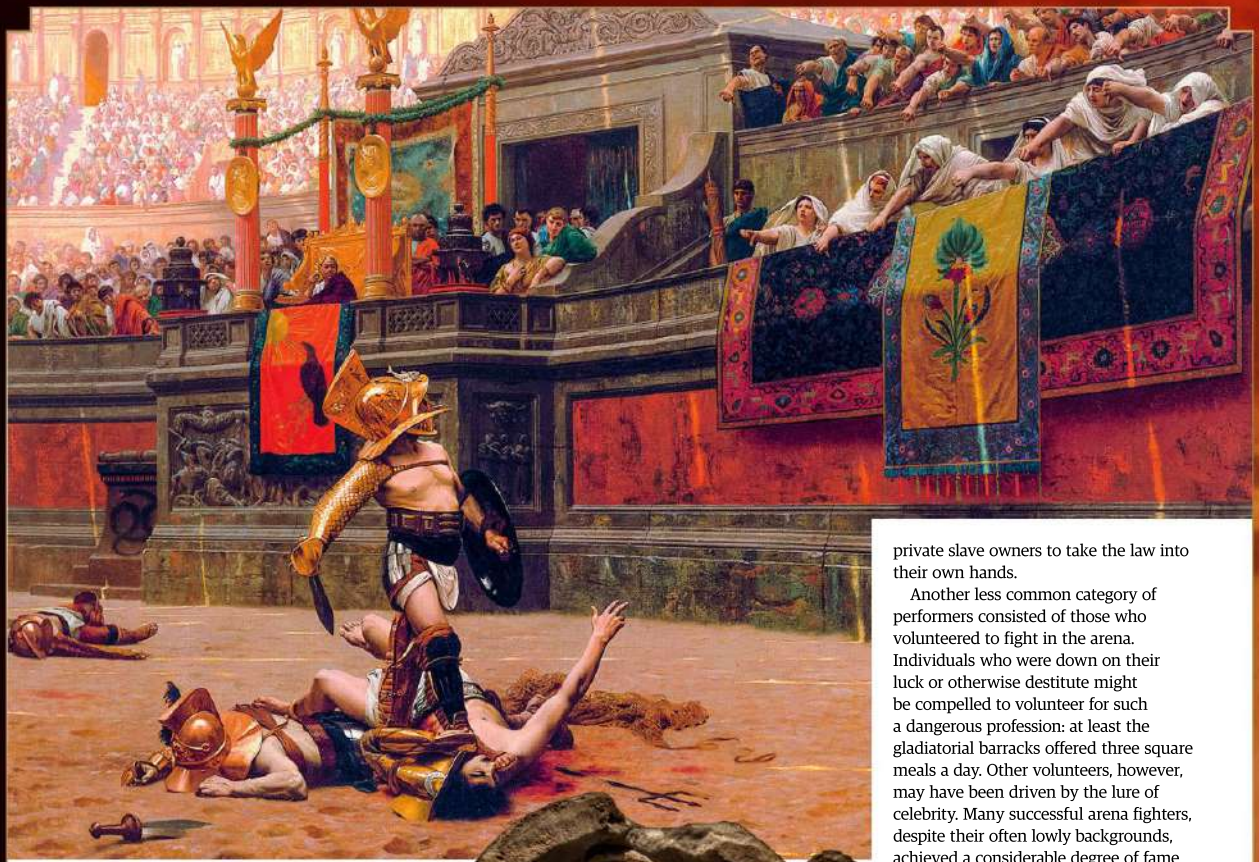
BELOW A reconstruction of the Chester Roman Amphitheatre, built near the Deva Victrix fort around 100 CE

the pinnacle of amphitheatre design. The Colosseum measured 188 by 156 metres, holding some 50,000 spectators, while its arena measured approximately 77 by 47 metres – more than enough room for a variety of large-scale events. A final important element of the Colosseum's design was its basement substructures. In its final form, the Colosseum basement, or hypogeum, contained approximately 200 animal cages as well as ample space for various props and equipment that, along with the animals, could be raised to the arena floor in a matter of minutes by a series of ramps and lifts. There is some debate, however, as to whether or not these substructures were an original component of the Colosseum's design, or a later addition. Records of the events staged to inaugurate the Colosseum in 80 CE suggest that they included marine spectacles (naumachiae), which would have necessitated the flooding of the arena floor or some sort of basin set into it. If this supposition is correct, the arena substructures could not have been in place at that time.

Regardless of where it was staged the success of a given arena spectacle depended upon the skill of the participants. Both gladiators and venatores were trained in ludi across Roman territory before setting foot in an arena. It was not unheard of for performers to fight in more than one discipline over the course of their careers (such as at least one gladiator who also fought as a venator in the arena), but in most cases, novices would be assigned to trainers in one specific discipline soon after their entry into a familia. Gladiatorial recruits would not spar with other novices right away, but instead would practise their weapon skills on a wooden stake, known as a palus. The ranking system of gladiators was based upon this term for the training post: within each fighting discipline, a given gladiator would often be denoted as 'first stake' (primus palus), 'second stake', and so forth depending upon his martial skill. Organisers would usually pit combatants of equal rank against each other, but on occasion a novice gladiator might fight against a veteran, sometimes with unexpected results. Unsurprisingly, there appears to have been a considerable overlap between the training methods of the Roman army and the gladiatorial barracks: in the late 2nd century BCE gladiatorial trainers were enlisted to provide additional training to Roman legionaries.

Like athletes of today, trainees for the Roman arena also appear to have eaten a specialised diet, in addition to their physical training. Modern analysis of gladiator skeletons found at Ephesus in modern-day Turkey indicates that they ate a high-carbohydrate and high-calcium diet. According to a number of ancient sources, this dietary combination was achieved through the consumption of a large amount of

The retiarius gladiator type was armed with a trident and weighted net



barley and vegetables, as well as bone ash and burnt wood. The unappetising ash and wood were eaten to offset the calcium deficiency that would otherwise have resulted from a typical gladiator's diet. The most common explanation for the high carbohydrate consumption is that it would have produced a layer of belly fat which, while not perhaps the most aesthetically pleasing, would have nonetheless provided an arena combatant with an additional layer of protection against slashes to the midsection.

As already mentioned, many gladiators under the Republic were originally prisoners of war who had been captured during Roman military campaigns. As Roman conquests dried up under the Empire, prisoners of war became a much less important source of gladiatorial recruits, but fighters were still overwhelmingly drawn from the lower classes of society. Criminals condemned to fight in the arena as either gladiators or venatores were a common source of arena recruits and, in the early Empire at least, unfortunate slaves were sometimes sold to gladiatorial familiae by their owners. The imperial government actually took steps to ban this practice, not wishing private slave owners to take the law into their own hands.

TOP A gladiator seeks a judgement from the crowd in this painting by Jean Léon Gérôme

ABOVE This 3rd century CE gladiator tombstone from modern-day Turkey displays the typical equipment of a Thracian gladiator, including his distinctive curved sword

Another less common category of performers consisted of those who volunteered to fight in the arena. Individuals who were down on their luck or otherwise destitute might be compelled to volunteer for such a dangerous profession: at least the gladiatorial barracks offered three square meals a day. Other volunteers, however, may have been driven by the lure of celebrity. Many successful arena fighters, despite their often lowly backgrounds, achieved a considerable degree of fame among the public. One need only look at the preserved gladiatorial graffiti from Pompeii, as well as the extant epigrams written in honour of arena performers like the venator Carpophorus, to realise the celebrity status that such individuals could sometimes achieve.

Regardless of their origins, be it criminal, slave or volunteer, all gladiators were required to take an oath upon entering training that formalised their subjugation; and under Roman law, arena performers were labelled as infamis ('disreputable'), the same status conferred upon other professions considered immoral such as prostitutes and actors. The lowly status of gladiators and venatores seemingly allowed many spectators to enjoy the violent spectacles in which they fought without any qualms of conscience for the participants' suffering.

Contrary to the idea some might have of gladiatorial combats being a bloody free-for-all, the contests in the arena were fought according to a rigidly enforced set of rules. Gladiatorial duels were routinely overseen by officials known as the summa rudis ('first stick') and secunda rudis ('second stick'), so named for the long sticks that they wielded to punish rule infractions. The most

A GESTURE OF DEATH

What did the 'thumbs up' and 'thumbs down' signal mean?

It's a common scene in many depictions of gladiatorial combat: the moment when the defeated gladiator awaits the decision of the emperor as to whether he will live to fight another day or be slaughtered on the spot. It was a moment of high drama, not to mention the point when the thousands of spectators supposedly had a say in the fate of the defeated man. This no doubt helps to explain the popularity of this scene in so much of the art and fiction about gladiators.

But what was the truth of this moment? For a start, it wasn't necessarily up to the emperor to make these decisions. This decision belonged to the 'editores', or organisers, who might sometimes be an emperor, but not always. They would have the final call on death or mercy.

The other key question is was it a 'thumbs up' or a 'thumbs down' that indicated that the fallen gladiator should die? There has been much debate on this question and the hunt for definitive evidence continues. The Latin terms used to describe the gestures are a little ambiguous, such as 'hostile thumb' or 'press your thumbs', which according to Pliny the Elder was used to show mercy to a gladiator.

One suggestion made by American Classics professor Anthony Corbeill is that the phrase 'pressing the thumb' referred to a 'thumbs down' gesture pressing onto a closed fist. This could perhaps be imitating the sheathing of a sword to indicate mercy, with raising a thumb indicating the opposite.

What seems clear is that the Romans didn't think about these hand gestures the way we do today.

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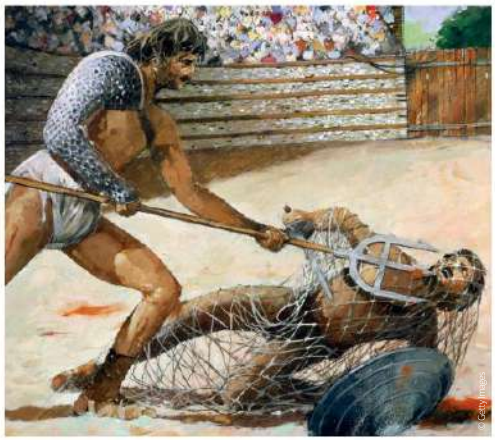
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TOP A group of gladiators in more relaxed setting outside of the arena

ABOVE A depiction of gladiatorial combat taking place in Silchester, Britannia

BELOW A section of the Borghese mosaic, which depicts a range of gladiators

© Getty

common outcome of a gladiatorial contest was a missio ('reprieve'), in which the defeated gladiator was spared to fight again another day (provided he didn't die of his injuries). Prior to such an outcome, the losing gladiator would usually lower his weapons as a sign of submission and await the spectacle organiser's decision as to whether his life would be spared by his victorious opponent. Most editores, to ensure even more popularity from their spectacle, would follow the wishes of the audience members under such circumstances, who signalled their opinion with a simple 'thumbs-up' or a 'thumbs down' gesture.

It was not unheard of for gladiators to fight to the death, but such instances were quite rare. In fact it has been estimated, based upon the available evidence, that only about ten percent of the gladiators participating in a given spectacle actually died. Gladiators represented a costly investment to both their owners and the editores who rented their services, and neither party wanted them to be slaughtered indiscriminately in the arena.

> "CRIMINALS CONDEMNED TO FIGHT IN THE ARENA AS EITHER GLADIATORS OR VENATORES WERE A COMMON SOURCE OF RECRUITS"

It was the increasing expense and difficulty in procuring arena performers that certainly played a major role in the gradual disappearance of the munera from the Roman Empire. In the case of gladiatorial combat, the influence of Christianity is often cited as the reason for its abolishment, but this theory is an oversimplification. Amid the disorder and economic decline that was suffered by the Roman state in the 3rd century CE, gladiatorial munera had already begun to disappear from the frontier provinces of the Empire because local organisers no longer had the funds to stage them on a regular basis. Similarly, the major issue for the staging of venationes in the 5th century was the dramatically decreased access to exotic animals for the arena as territories like north Africa fell from Roman control.

FIGHTING FOR RECOGNITION

The 50-year battle for seven African American heroes to receive the Medal of Honor

Written by Robert Child

The Medal of Honor is the highest award the US gives to its soldiers, sailors, marines, airmen and coastguardsmen, bestowing it upon only a select few in the history of America's military. However, since its creation in 1861 only a small fraction of African American soldiers have received the award, and none between 1898 and 1991. In his book *Immortal Valor: The Black Medal of Honor Winners of World War II*, Robert Child chronicles the lives and experiences of the seven African American men who, in 1997, were finally honoured for their service and bravery during World War II. We asked Child to break down some of the key history of this incredible story.

Origins of the Medal of Honor

The medal that we know today as the United States' highest award for military valour in action, the Medal of Honor, came into being during the Civil War. In 1861 President Abraham Lincoln signed legislation proposed in Congress by Iowa Senator James W Grimes, creating the first Medals of Honor for heroic naval service actions. Congress followed up in 1862, devising the army's first Medal of Honor specifically for "noncommissioned officers and privates who distinguished themselves by their gallant actions". Later it grew to include officers.

The Medal of Honor has been awarded fewer than 3,500 times, and the vetting process is rigorous to assure that only the most deserving soldiers receive the coveted decoration.

Rise of discrimination

After the close of the Civil War in 1865, 25 African Americans were deemed worthy of the coveted award for their gallant actions, and six more received the medal after the Spanish-American War (1898). But as the 20th century dawned, it became a different story. It was not until 1991 that the first African American serviceman from WWI, Freddie Stowers, was awarded the Medal of Honor - 73 years after being killed in action.

Societal prejudices that prevailed in America filtered into the military. The watershed moment many scholars point to is the disastrous and deeply racist 1925 Army War College report: *The Use of Negro Manpower in War*. Among the erroneous conclusions of the 67-page study that impacted the treatment

Staff Sergeant Edward A Carter Jr was finally awarded for his bravery in 1997

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EXPERT BIO

© Michael Justicz/Hollywood Headshots

ROBERT CHILD

Robert Child is an author, director, producer and screenwriter. His previous non-fiction writing includes *The Lost Eleven: The Forgotten Story of Black American Soldiers Brutally Massacred in World War II* and *Washington's Crossing: America's First D-Day.*

of African American soldiers was that: "The Negro is by nature subservient and believes himself to be inferior to the white man. He cannot control himself in the face of danger to the extent the white man can."

That statement contributed to a deeply held false belief by many in the upper echelon of the American military that Black soldiers would not fight let alone demonstrate courage. As a result, an "unwritten policy" developed that no Black soldier would ever be recommended for the Medal of Honor no matter what the circumstance.

Other awards

Six of the seven men featured in *Immortal Valor* were awarded the second-highest medal for valour in the American military, the Distinguished Service Cross (DSC). All but one of these men's commanders put them in for this award because it was common knowledge that the Medal of Honor would not be awarded to Black soldiers. This fact was uncovered by the 200-page study at Shaw University commissioned by the Defense Department called *Exclusion of Black Soldiers from the Medal of Honor in WWII.* The one soldier who had not been submitted for the DSC, Ruben Rivers, had been awarded the Silver Star. Rivers' commander Captain David Williams refused to submit him for the DSC because he believed Rivers deserved the Medal of Honor. Williams submitted Rivers for the highest award and fought for more than 50 years to see it given.

Vernon Baker after he received the Medal of Honor from President Bill Clinton in 1997

© Getty Images

Shared experience

None of the men knew one another during the war and they did not meet after it, but they shared the same cultural upbringing in a country that was deeply racially prejudiced. When they did see combat they were often thrown into battle and used, as one Black soldier put it, as "cannon fodder". They all believed, however, that they were fighting for a greater cause - equality at home. The Double V campaign motivated these men to win victory abroad for democracy and equality at home. Many felt once they proved themselves on the battlefield they would be awarded their place in society. This proved, however, not to be the case.

The final fight

The remaining Medal of Honor recipients who survived the war, Vernon Baker, Edward Carter Jr and Charles Thomas, all adjusted as best as they could to civilian life and a country where prejudice remained the norm. All gave interviews reflecting on their service after the war.

Thomas retired from the military with the rank of major on 10 August 1947, married and had two children. He had a long career working as a computer programmer for the Internal Revenue Service in Michigan. In interviews after the war, he showed his humility but also a grasp of the situation he found himself in: "Thinking back on it, I knew if the job could be done, these men could do it because they could and would fight; they were proud, and they were good. Need I say, I was proud to serve with them."

Baker remained in Italy after the war until orders arrived in late 1946, sending him back home. Back in the United States, he briefly considered going to college and taking advantage of the GI Bill. Instead, he reenlisted upon the expiration of his commission as a first lieutenant.

He briefly became an army photographer and a master sergeant in the Signal Corps, but the army was actively recruiting a new all-Black airborne division with higher pay. Baker, though he

EXAMPLES OF VALOUR

These Black soldiers' heroic deeds saw them awarded Medals of Honor

Vernon Baker

Lieutenant Baker led his weapons platoon forward, capturing a German fortress that two battalions of his regiment had been unable to secure. In all, Lieutenant Baker accounted for nine enemy dead soldiers and the elimination of three machine gun positions, an observation post and a dugout. On the following night he volunteered to lead a battalion advance through enemy minefields and heavy fire toward the division objective.

Ruben Rivers

Rivers joined the 761st Tank Battalion in 1942 – the unit would become known as 'Patton's Black Panthers'. He rose to staff sergeant and commanded a tank section in France in mid-November 1944. Under enemy fire, he removed a mined roadblock and took out a German Tiger tank with two rounds, winning the Silver Star. Meeting increasingly stubborn German resistance, Rivers spotted several anti-tank positions and radioed: "I see 'em. We'll fight 'em!" While his gunner took aim, Rivers' tank was hit, killing him and wounding the rest of the crew.

Edward Carter Jr

Staff Sergeant Carter was born to be a soldier. He fought with the Chinese 19th Army at 15 and later with an American brigade in the Spanish Civil War. While fighting in Germany in WWII, his patrol was ambushed and Carter volunteered to take out the enemy position. He killed six of the enemy soldiers and captured the remaining two. These prisoners gave valuable information on the number and location of enemy troops. Carter, wounded nine times, refused evacuation until he'd gotten all the intelligence from the captured enemy soldiers – information that saved numerous American lives.

wasn't keen on jumping out of planes, decided to sign up. He finished jump school at Fort Bragg in Fayetteville, North Carolina, and graduated as a first sergeant from NCO school at the top of his class. He jumped out of his last plane at the age of 48 and mustered out of the army at Fort Hamilton, New York, a week later in August 1968. His military career was over and he went to work for the Red Cross, which he stayed with for the next 20 years.

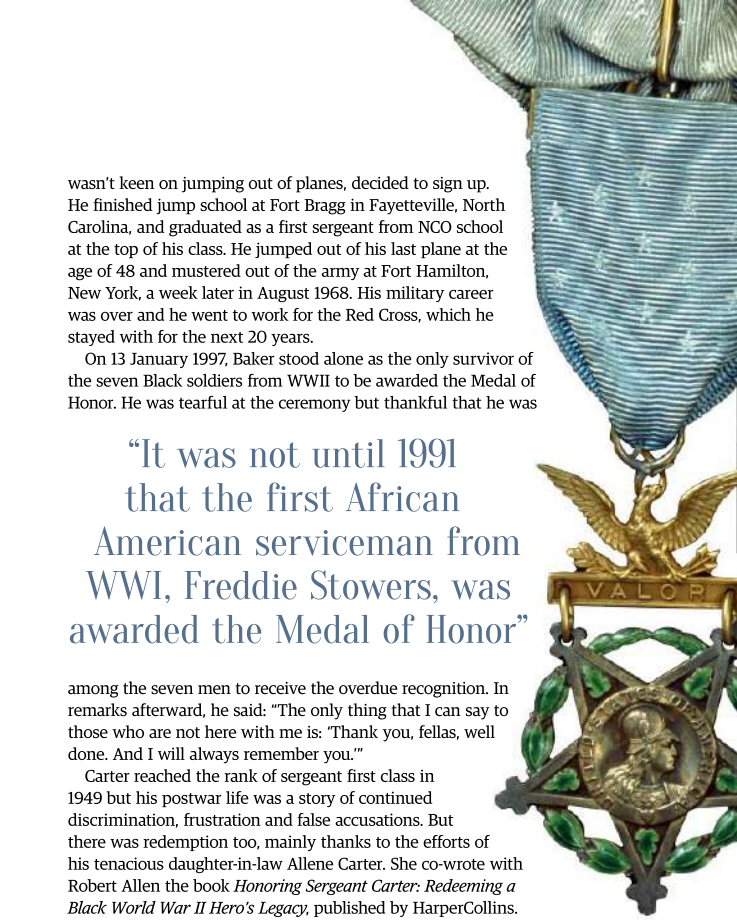
On 13 January 1997, Baker stood alone as the only survivor of the seven Black soldiers from WWII to be awarded the Medal of Honor. He was tearful at the ceremony but thankful that he was

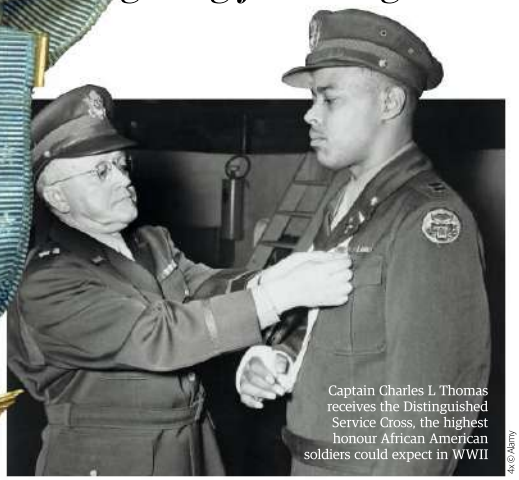
> "It was not until 1991 that the first African American serviceman from WWI, Freddie Stowers, was awarded the Medal of Honor"

among the seven men to receive the overdue recognition. In remarks afterward, he said: "The only thing that I can say to those who are not here with me is: 'Thank you, fellas, well done. And I will always remember you.'"

Carter reached the rank of sergeant first class in 1949 but his postwar life was a story of continued discrimination, frustration and false accusations. But there was redemption too, mainly thanks to the efforts of his tenacious daughter-in-law Allene Carter. She co-wrote with Robert Allen the book *Honoring Sergeant Carter: Redeeming a Black World War II Hero's Legacy*, published by HarperCollins.

His future was looking bright and he announced he planned on reenlisting when his tour was up in September 1949. The army, however, had other plans. They decided to bar his





Captain Charles L Thomas receives the Distinguished Service Cross, the highest honour African American soldiers could expect in WWII

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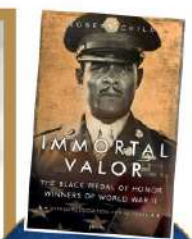
reenlistment, even though Carter was held in high regard by his superior officers in the Detachment at Fort Lewis. For the remainder of his life, he battled to clear his name. His health eventually deteriorated and he was diagnosed with lung cancer. His condition worsened rapidly, and on 30 January 1963, Carter died at the age of 46.

For over 30 years, that remained the end of the story for Carter until he was posthumously awarded the Medal of Honor in 1997. Fortunately, recognition of this proud man's story did not end there as his daughter-in-law Allene pressed his case further. With binders of materials in hand, she enlisted the help of journalist Joe L Galloway at *US News & World Report*, who had penned the *New York Times* bestseller *We Were Soldiers Once... and Young* with Colonel Hal Moore. On Memorial Day weekend 1999 *US News & World Report* decided to make Sergeant Carter's story the lead, with his picture on the cover.

The damning article began with the declaration that it would tell the reader "about how a battlefield hero could be broken by the country he served". The expose and subsequent public outcry prompted a letter of apology shortly thereafter from President Clinton and a new investigation by the Board of Correction for Military Records. General John Keane, Army Vice Chief of Staff, apologised on behalf of the US Army for the banishment of Carter in 1949. The proud soldier's name was officially cleared at last.

BELOW-LEFT
Ruben Rivers' 761st Tank Battalion, known as 'Patton's Black Panthers', in France, 1944

BELOW-RIGHT
Vernon Baker was the first member of the 370th Infantry Regiment to become a commissioned officer



IMMORTAL VALOR: THE BLACK MEDAL OF HONOR WINNERS OF WORLD WAR II
BY ROBERT CHILD IS AVAILABLE NOW FROM OSPREY PUBLISHING

Originally born from gospel, doo-wop and rhythm and blues, soul transcended into a form of expression uniquely suited to exploring the experience of Black America

© Getty Images

AMERICA GOT SOUL

How soul music grew into one of America's most powerful artforms

Written by Hareth Al Bustani

Soul is a broad tree, with roots stretching deep into the heart of the Black American experience. It can be traced all the way back to the earliest of roots Afro-American music, gospel and blues; two spiritual accompaniments to the lives of hardship that Black people experienced from the earliest days of slavery, through the Jim Crow era. While gospel emerged as a source of hope for a brighter tomorrow, even if one had to wait for the afterlife, blues was a direct product of slavery and prejudice; a cathartic outpouring of the misery and pain so intertwined with the lives of America's oppressed underclass.

Blues had once been played exclusively in the smoky, sweaty Black drinking establishments dotted along the Mississippi Delta. There, virtuosos like Robert Johnson stunned audiences hurtling their nimble fingers across guitars with remarkable musical proficiency, and stunning emotional depth. However, as more Black people migrated to seek opportunities in new cities, the genre soon travelled to hubs such as Chicago, where it adapted to the miseries resulting from urban poverty. There, it took on a new life, as once acoustic musicians like Muddy Waters went electric, playing in booming bars for dancing audiences.

Simultaneously, other Black musicians had taken traditions into an entirely new direction, pioneering the genre of jazz, featuring large brass bands and syncopated rhythms. Musicians like Louis Armstrong gradually took white America by storm, to the point that white people began to appropriate this new genre for itself, 'legitimising' it in the eyes of the white establishment. The genre's success paved the way for 'race' music to begin building an infrastructure and industry, owned and maintained by Black entrepreneurs, for Black artists – training an entire generation

of musicians, producers, songwriters, engineers and talent. Even white rock bands were now heavily inspired by Black music, which had made the white crooners of yesteryear utterly redundant, beneath the thrilling excitement of the emerging rock 'n' roll.

During the 1950s, a new generation of post-war musicians began to bring together the rapidly developing forms of Black music, merging the melodies of gospel revival with the upbeat articulation of doo-wop and rhythm and blues, giving rise to an entirely new genre; soul. This style was personified in the forms of the upcoming musicians Ray Charles and Sam Cooke, ushering in a new popular, secular artform.

Emerging from Los Angeles, the blind Ray Charles took his influences from Charles Brown and Nat King Cole into the stratosphere, bursting out jazz-blues-gospel hybrid hits such as 1959's *What'd I Say*, before becoming one of the first Black crossover artists with Hoagy Carmichael's *Georgia On My Mind*, and Percy Mayfield's barnburner, *Hit The Road Jack*. Black musician Bobby Womack later commented, "Ray was the genius. He turned the world onto soul music." *Billboard* magazine writer Jerry Wexler even coined a new term for 'race music', dubbing it 'rhythm and blues'.

Charles had done the seemingly impossible, bridging the sexual energy of the dancefloor and the spiritual energy of the church. *What'd I Say* was considered so obscene that it was banned in some parts of the country, being described as "sacrilegious" for secularising gospel music and adding a touch of innuendo. Despite breaking through to white America, the 'Queen of R&B' Ruth Brown recalled, "When the dance was over sometimes it was so scary we wanted to get out of town as soon as we could. There were still crosses burning in the middle of the night. There was a price paid for this music."

For a while, Black musicians such as Little Richard and Chuck Berry had revolutionised the face of popular culture, and showed up the country's white musicians in the process. However, before long, artists once again began to push Black musicians out, by appropriating the increasingly popular rock 'n' roll genre, which Charles differentiated as: "Rock 'n' roll is the white version of rhythm and blues. There was a big difference, if you really listened to the music, between the two styles. One is more pure, one is more dirty. R&B has got more toe jam in it." In response, he returned to his roots, "I started taking my music and saying it the way that I felt it – the gospel sound that was part of my growing up. I knew all I was doing was being myself."

Meanwhile, after a string of hits with the Soul Stirrers, including *Be With Me Jesus* and *Touch The Hem Of His Garment*, the Chicago-raised Sam Cooke soared to new heights with Bumps Blackwell's 1957 tune, *You Send Me*. Selling more than a million copies, *You Send Me* was a defining moment, inspiring a whole generation of Black musicians. For many, the world of soul is marked by life before 1957, and life after it. Peter Guralnick explains, "You couldn't have the popular music we have today without that crossover from church to pop." With the Soul Stirrers, Cooke toured a network of Black churches called the 'gospel highway' for seven years. It was

"Soul groups dominated the charts with their powerful lead vocals and rich melodies"

BELOW Among Motown's best-selling groups of the 1960s, Martha Reeves and the Vandellas were inducted into the Rock and Roll Hall of Fame in 1995

© Alamy

One of soul's earliest pioneers, Ray Charles outraged some with his sexually charged, secular version of gospel music

Soul's Forgotten Superstar

Shy and suffering with mental illness, what James Carr lacked in charisma he made up for in extraordinary vocals

One of soul's finest singers is ironically one of its least-known. Born in 1942, James Carr grew up in Memphis, and cut his teeth singing with a variety of gospel groups throughout the 1960s. Having failed to find success in Memphis, he released his first single *You've Got My Mind Messed Up* with the entrepreneurial producer, Quinton Claunch. His follow-up, *The Dark End Of The Street*, became an instant classic, covered by everyone from Aretha Franklin to Linda Ronstadt – none of whom ever rose to the heights of Carr's raw emotion, overwhelming power and earth-shaking performance.

Able to catapult from a roaring deep baritone to a shrill shriek in an instant, he never missed a note or beat. Although Carr was largely absent during the 70s and 80s, he had a brief 90s comeback with two records, before dying in 2001. Years earlier, when the singer Dan Penn was touring the UK, he commented, "Everybody keeps asking me which is my favourite version of *The Dark End Of The Street* – as if there was any other than James Carr's. Not even mine. I'll sing it anyway. But I wish I had James here."

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a jarring life, treated as a superstar in one breath, and dealing with dangerous racism the next. Bobby Womack remembers, "Sam was electrifying. The places were jam-packed – it was like Elvis Presley was coming." Sam Cooke's crossover success was a milestone in the marriage of gospel, rhythm and blues and rock 'n' roll. While Ray Charles tore his way through his songs, Cooke crooned through a clean tenor voice, establishing himself as a genre mainstay, as soul transitioned into the more socially conscious 1960s.

As the Civil Rights movement swelled, so too did the Black pride movement; and this soon began to trickle out into culture and entertainment. While The Staple Singers inspired a young Bob Dylan, the charts themselves were taken over by Berry Gordy's Black-run Detroit record label, Motown. Soul groups like The Supremes, The Miracles, Martha and the Vandellas and the Four Tops utterly dominated the charts with their powerful lead vocals, set against beautiful harmonies, booming brass sections, and rich melodies.

However, amid the changing tides, Motown momentarily found itself out of touch with the pulse of America. Instead, it was up to Chicago's Renaissance man, Curtis Mayfield, to tap into the public sentiment. Having already established himself as a singer, guitarist, songwriter and arranger, he began to write about community struggle and racial harmony. His 1964 track, *People Get Ready*, held up a mirror to the Zeitgeist of the time, "People get ready, there's a train a comin'. You don't need no baggage, you just get on board. All you need is faith to hear the diesel's hummin'. You don't need no ticket, you just thank the lord," – later going on

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ABOVE Curtis Mayfield scored a critical hit with the soundtrack to the Blaxploitation film *Super Fly*, a remarkably astute embodiment of the spirit and reality of life in the urban ghetto

© Getty Images

BELOW Thundering across the stage to hypnotic rhythms and blasts of brass, James Brown was soon known as the 'Godfather of Soul' and 'Hardest Working Man in Show Business'

to inspire Bob Marley's *One Love/People Get Ready*. Mayfield said, "That was taken from my church or from the upbringing of messages from the church. Like there's no hiding place and get on board, and images of that sort. I must have been in a very deep mood of that type of religious inspiration when I wrote that song."

As the genre grew increasingly popular among white audiences and musicians, it gave way to a new genre dubbed 'Blue-eyed soul' – soul music performed by white people. Music magazines applied the term to white acts such as the Righteous Brothers, Tom Jones and husband and wife duo, Sonny & Cher. While some Black stations initially refused to play these acts, some were able to break through; distinguishing themselves from white performers who simply 'stole' Black music, by carefully devoting themselves to studying and faithfully replicating the Black genre.

Throughout the 1960s, America's soul acts continued to innovate, becoming increasingly political. This newfound purpose fuelled Sam Cooke's poignant 1964 song, *A Change Is Gonna Come*, which immediately became an anthem of the Civil Rights movement, as it headed into its peak. Sam was inspired firstly by an incident when a hotel clerk turned him and his wife away for being Black, and secondly by Bob Dylan's *Blowin' In the Wind*, which in turn drew its melody and concept from the old Black spiritual, *No More Auction Block/We Shall Overcome*. Just two weeks before the song's release, Sam was murdered in a Los Angeles motel, his words reverberating forevermore as a call for justice and equality. By the time of his death, Cooke had amassed 30 top 40 singles, blazing a trail by forming his own publishing company and record label years before that was commonplace for Black musicians. He was also among the first to forgo a slick flattened 'conk' hairstyle, in favour of an Afro. Together with Motown's Gordy, he had helped transition the industry into a vehicle for political change, by helping to cross over the picket lines of racism, breaking into venues and radio stations previously reserved for white acts.

LEFT Sam Cooke's crossover success was a milestone; one he followed up by setting up his own record label, and aligning the genre with the Civil Rights movement

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ABOVE Another of soul's blind virtuosos, Stevie Wonder, stunned listeners with the dizzyingly creative and immaculately written 1973 record, *Innervisions*

© Alamy

BELOW Among the most unexpected offshoots of soul was disco, heralded by New York's Black, Latino and gay communities

Born in Memphis and raised in Detroit, Aretha Franklin began her singing career in her father Reverend C. L. Franklin's church, where she caught the attention of John Hammond from Columbia Records, New York – the same man who discovered a young Bob Dylan. After recording ten albums in six years, she grew frustrated and moved to Atlantic Records, where her career finally blossomed. Until the mid-60s, the genre was long dominated by male superstars. However all that changed in 1967, when Franklin scored a stunning series of hits, including *I Never Loved a Man (The Way I Love You), Do Right Woman, Do Right Man, Chain Of Fools, Baby I Love You, (You Make Me Feel Like) A Natural Woman* and the classic Otis Redding track, *Respect*. Franklin's seminal *I Never Loved a Man (The Way I Love You)* was recorded at producer Rick Hall's Fame Studios in Muscle Shoals, Alabama – the same place another legendary lady, Etta James, recorded her hits, *Tell Mama* and the storied *I'd Rather Go Blind*.

By the late 1960s, the genre had begun to branch out into a series of subgenres. Under the vision of Motown songwriters Norman Whitfield and Barrett Strong, the Temptations started producing increasingly psychedelic soul. These tracks featured distorted guitars, multi-tracked drums and elaborate vocal arrangements, flowing across longer, more experimental structures. Originally recorded by The Undisputed Truth, the Temptations' version of the Whitfield-Strong track *Papa Was a Rollin' Stone* became a sensation, earning a Grammy. Meanwhile, another of Motown's rising stars, Marvin Gaye, embodied the tumultuous spirit of the 1970s with his seminal masterpiece, *What's Going On*, a concept album about a veteran of the Vietnam War returning to an America riddled by division, poverty, injustice and misery. It is considered not just one of the finest soul albums, but among the greatest records of all time.

By this time, Georgia singing sensation James Brown had pioneered his own unique sound; spearheaded by a masterful band including the innovative guitarist Jimmy Nolen, Alfred 'Pee Wee' Ellis on alto sax, Maceo Parker on tenor sax, Fred Wesley on trombone and the stratospheric Bootsy Collins on bass. As he screamed and wailed his way through thumping tunes, clad in a sparkly, tight jumpsuit, Brown dripped head to toe with sweat, energy and sexuality. From 1956's *Please Please Please*, through to 1965's *Papa's Got A Brand New Bag* and 1968's *Say It Loud I'm Black And Proud*, he had grown increasingly confident in his own direction. By the 1970s, he stood at the forefront of an entirely new genre; funk. Characterised by repetitive rhythmic sections, with an emphasis on groove, Brown's tracks were entrancing, hypnotic powerhouses, with sections punctuated

by wild, immaculately co-ordinated brass-blasting breakdowns.

He was joined in this genre by a former Motown songwriter and doo-wop singer called George Clinton, who went on to create the bands Parliament and Funkadelic; bringing together the styles of James Brown, Jimi Hendrix, Frank Zappa and fellow funk pioneers, Sly and the Family Stone. Bootsy Collins would later go on to join the ensemble, who pioneered their own subgenre, of P-Funk. If James Brown was drenched in sexuality, P-Funk was ablaze with cosmic, psychedelic creativity, with the band performing elaborate shows inspired by acid culture and science fiction. Decades later, Clinton's music would become a staple of the emerging hip hop genre, as his songs were sampled by everyone from MC Hammer to LL Cool J and Snoop Dogg – inspiring the G-Funk genre heralded by Digital Underground, Dr. Dre and Warren G.

"Together with Motown's Gordy, Sam Cooke had helped transition the industry into a vehicle for political change"

By the end of the 1970s, the distinctively smooth sound of Philadelphia soul's frontrunners, the Blue Notes, Delfonics and O'Jays had paved the way for a new genre. The broad strings and sharp bass, famously produced by Kenny Gamble and Leon Huff, gave rise to disco; emerging from the Black, Latino and gay communities near the New York area. Before long, it took the nation by storm, with even Stevie Wonder adopting the sound, made famous by the Bee Gees and immortalised in the hit film, *Saturday Night Fever*. While music was set on a new trajectory, soul continued to endure; not just through the hip hop and R&B genres of the 1990s and 2000s, but also neo-soul revival acts, such as the late Sharon Jones and Charles Bradley, and Nashville's Robert Finley and Shannon Shaw; becoming ingrained within the very DNA of popular music.

In 1967, Aretha Franklin forever changed the male-dominated face of soul with a sensational string of hits

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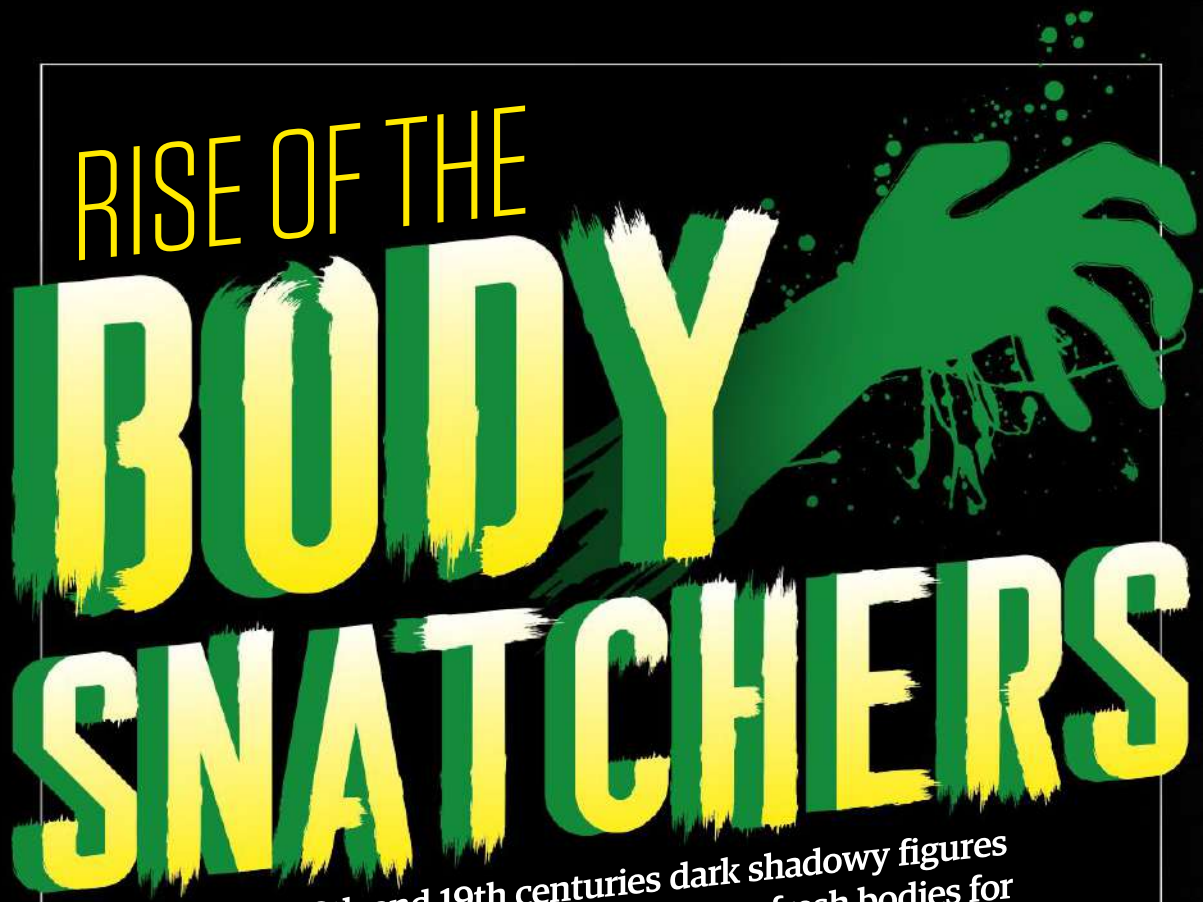
RISE OF THE BODY SNATCHERS



In the 18th and 19th centuries dark shadowy figures prowled Britain's graveyards seeking fresh bodies for the country's anatomy tables

Written by Callum McKelvie

The cemetery is as quiet as the grave, except for a lone figure silently shovelling earth, digging deep for the casket buried below. As his spade strikes the coffin lid, he grins malevolently - he'll be paid handsomely tonight. Grave robbers have become something of a gothic cliché, a trope of horror films and stories, yet during the 18th and 19th centuries body snatching was not only very real but incredibly common. "There were two 'peaks' to the body snatching trade: the last decades of the 18th century and the first of the 19th, and then again around 1826-28, just before Burke and Hare were caught for the murders they committed in Edinburgh," explains Suzie Lennox, author of *Bodysnatchers: Digging Up the Untold Stories of Britain's Resurrection Men.* During these two periods the so-called 'resurrection men' could be found prowling Britain's graveyards in search of fresh cadavers. But why was there such a demand for dead bodies, and who was buying them?

During the 18th century, the medical world found itself handcuffed by antiquated laws. Scientific research methods had improved and there was a new emphasis on a student's practical knowledge of the body. Yet here lay the problem as, until the Anatomy Act of 1832, dissection could only be carried out on a small number of legally granted cadavers. In 1505 James IV granted the use of criminals' bodies for dissection to The Worshipful Company of Barber Surgeons in Edinburgh and in 1540 Henry VII had followed suit, permitting the same in England and Wales. Yet this set the yearly quota at just four corpses and although the Murder Act of 1752 established procedures for the post-mortem of murderers, the act of dissection was seen solely as a punishment for the convicted and not a purely scientific endeavour. The use of anatomy as punishment was linked directly to the strong Christian beliefs that prevailed at this time. How could one hope for any sort of life in the spiritual hereafter if one's body ▶

EXPERT BIO

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SUZIE LENNOX

Suzie Lennox is the author of *Bodysnatchers: Digging Up the Untold Stories of Britain's Resurrection Men*. She also runs the Digging Up 1800 website and gives numerous talks on the subject of Britain's body-snatchers.

had been physically destroyed? However, the growing interest in anatomical research meant that the number of available corpses (a yearly average of 12 between 1752 and 1832) was no longer enough. And if there's a demand, there's always someone willing to supply it.

Enter the resurrection men, commonly known as body-snatchers. These were individuals who, for a price, would ensure that any young medical student seeking extra 'material' had their orders filled. "Body snatching as a 'professional' occupation didn't really start to take shape until the end of the 18th century," Lennox explains. "Up until then the students and anatomists would have carried out their own raids in graveyards, acquiring cadavers as and when they could." Unusually, the act of body snatching in and of itself was not illegal – the crime lay in the theft of any items on the body and in the act of dissection. "If the burial shroud or other items of clothing were stolen along with the corpse then this escalated the crime to a felony," Lennox tells us. "It's for this reason that cadavers were always stripped as soon as they were out of the coffin." And if the job was pulled off correctly, it could be extremely lucrative for the thieves.

"As the 18th century drew to a close, a cadaver was fetching around two guineas for an adult, and a child's corpse was priced at 6s for the first foot and the 9d per inch thereafter," Lennox explains. However as the 19th century began, demand steadily increased and by the 1810s, the price for an adult had doubled. "Adult corpses, that was any corpse that measured over three feet in length, were now costing £4 4s and children were being priced by the inch," continues Lennox. "Demand was so great that by the time the Anatomy Act was passed in 1832, a cadaver could fetch as much as 16 guineas. To help put this into perspective, common living expenses, for example, cheese, could cost 2d for 1lb or a glass of gin 3d, or the same as 45 days' pay for a skilled labourer."

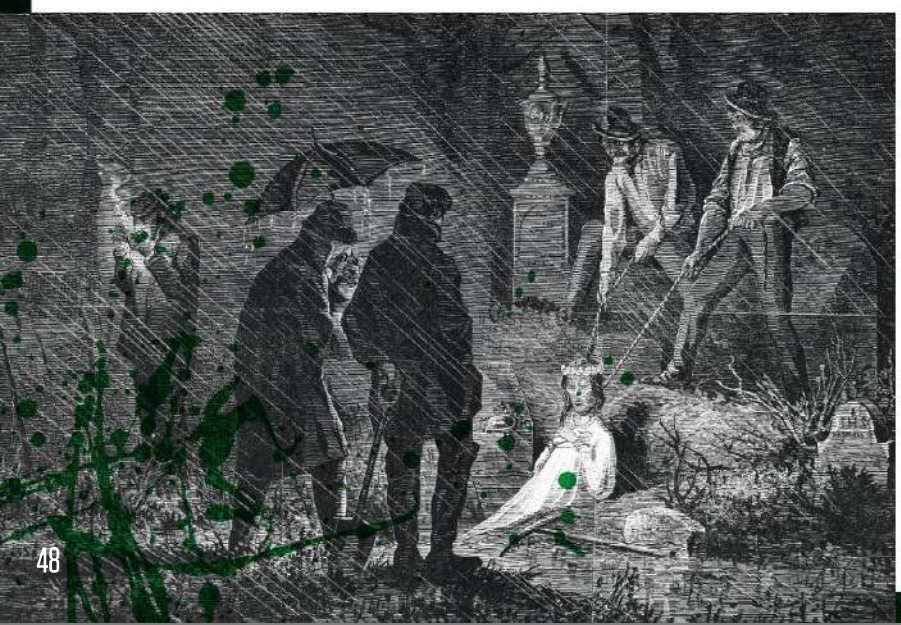
ABOVE Burke and Hare depicted murdering one of their victims. Their method of smothering was nicknamed 'Burking' for years after

Over time the resurrection men developed a number of techniques to help in the disinterment of a corpse. "Graves of the recently deceased would be targeted, even those buried the same day didn't escape," explains Lennox. "The body-snatchers would dig down at the head end of the coffin, piling the soil onto the other end, to eventually act like a cantilever. This would have been done with wooden shovels so as to deaden the noise when hitting stones. Once the thud against the coffin lid was heard, a crowbar or some other tool would have been placed under the lid of the coffin and the lid prised off, the soil that had been heaped on the other end helping it to snap across the chest area. Once open, either hooks or ropes would have been attached to the cadaver and the corpse pulled out with a number of stiff tugs. All of this would have ideally been carried out on a moonless night, which offered more cover against being caught. If done right, this process could take no more than an hour."

One of the best resources regarding our knowledge of how the resurrection men operated is James Blake Bailey's *The Diary of a Resurrectionist,* published in 1896. As the title suggests, this book contains portions of a journal kept by an actual resurrectionist, Joseph Naples, a cemetery keeper turned body-snatcher. The journal gives details of how Naples went about his work. Usually, he would remove the body before the grave was given its final tidying – the upturned earth not arousing any suspicion. Naples would then place the cadaver in a sack, fill in most of the grave and then place the corpse close to the top as he replaced the remaining dirt. This meant that it was relatively easy for him to uncover the corpse and ensure the grave looked undisturbed. In order to avoid being caught in the street heaving bodies around, Naples made use of out-houses belonging to the colleges he supplied to store the corpse until the time of delivery.

"THE ACT OF DISSECTION WAS SEEN SOLELY AS A PUNISHMENT FOR THE CONVICTED AND NOT A PURELY SCIENTIFIC ENDEAVOUR"

In London, so high was the demand for cadavers that body-snatching gangs were formed. The Borough Gang dominated the London body-stealing market during the 1810s and virtually obliterated any competition. "They held the monopoly of the corpse supply business in London, supplying cadavers to the teaching hospitals of Guy's and St Thomas' and St Bartholomew's as well as the numerous private anatomy schools that were springing up unchecked in the area," says Lennox. The gang had a number of leaders throughout its years of operation, the first of which was Ben Crouch. "Crouch was a strong influence and basically ruined the chance of any lone body-snatcher working again – spoiling any graveyard they'd targeted or telling the authorities



BELOW It was not just in Britain that body-snatching was rife – the USA also had a thriving resurrectionist business, as this 1868 illustration shows

PRESERVED FOR POSTERITY

Malcolm McCallum, curator of the Anatomical Museum in Edinburgh, tells us about the city's history of grave-robbing and the skeleton of William Burke

Tell us about yourself and the museum...
I'm the curator of the Anatomical Museum and to all intents and purposes we are the Museum of Edinburgh Medical School. The medical school itself goes back to 1726 and our collection really tells the story of how anatomy was taught at the university over a period of 300 years. As part of that, we have a lot of human remains.

What was Edinburgh Medical School's attitude towards body-snatching and its students' procurement of bodies for research?
As far as I'm aware, it was tacitly acknowledged. The trade itself had existed for some time and wasn't just a 19th century phenomenon – there's reports of grave-robbing in Edinburgh around 1710-11. During the 1820s you had to dissect a body if you were going to take an anatomy degree and the universities knew that there weren't enough legally acquired bodies to go around. Essentially, the medical schools turned a blind eye to the trade.

What Impact did the William Burke and William Hare scandal have on the school?
It actually had a positive one. The scandal led to the Anatomy Act of 1832 which made greater numbers of cadavers legally available to schools. If you died in an asylum or hospital, and had no relatives or means to cover your funeral costs, your body would go to the schools for dissection. Crucially, the institutions which were providing the cadavers only supplied them to anatomy schools that were associated with teaching hospitals. So for the Medical School, the impact was that the Act got passed and the school regained its prominence at the expense of other extramural schools.

How does the museum approach this legacy of body-snatching?
One of the first things to note is the idea of consent. If you look around the museum, there

are specimens, full skeletons as well as body parts, which are used in teaching. But the individuals who these belong to didn't give full consent. Before 1832 we have very little documentary evidence but it's likely they either would have belonged to people who would have been grave-robbed, or people who were dissected as punishment under the terms of the Murder Act after committing murder. After 1832 it's poor people, again most likely without their individual consent, although this time taken legally under the terms of the Anatomy Act. The museum is aware that for a lot of the collection historically there's no consent given and that the history of the medical school is completely different to the current way that you could possibly donate your body.

What items do you have relating to body-snatching history?
We've got life masks of both William Burke and Hare and death masks of Burke and Dr Knox. The reason we have the Burke mask is that Edinburgh was at that time a centre for phrenology, a strange pseudoscience where they thought they could work out if somebody was prone to committing crime by studying the lumps and bumps on their head. We've also got a couple of Knox's medical specimens used in teaching and, most disturbingly, we've got a letter that's said to be written in Burke's blood which was apparently taken from his head during the dissection. We think that this was written by Alexander Monro Tertius, who was the professor of anatomy who dissected Burke.

Famously, you have the skeleton of William Burke on display. Can you tell us about that?
Following his execution Burke's body was handed over to Professor Alexander Monroe for dissection. The sheriff of the trial, David Boyle, had said to Burke: "Your body should be publicly dissected and anatomised and I trust that if it is ever customary to preserve skeletons, yours will be preserved in order that posterity be keeping remembrance of your atrocious crimes." So after a public dissection, where thousands of people came to see Burke's body, the skeleton was basically quartered, put into barrels and displayed in the museum – where it remains to this day.

2x © Anatomical Museum University of Edinburgh

A mort lair was a device designed to protect a loved one's corpse by covering the entire grave

about their crimes," Lennox explains. "Either way, the only option available to such individuals was usually to join the Borough Gang as a way of ensuring a steady income." However, no Borough Gang leader was more notorious than Patrick Murphy who, according to a confession by one James May, was "able to go to the Keeper of different grounds and pay them handsomely for the run of the grounds." An example of this can be found in the case of Holywell Mound. The Borough Gang bought exclusive access to the cemetery from its sexton. However, when two rival resurrectionists revealed their scheme, an angry mob descended on the cemetery and found almost every grave empty. Furious, they flung the terrified groundsman into a pit and attempted to bury him alive, before the constabulary stopped them.

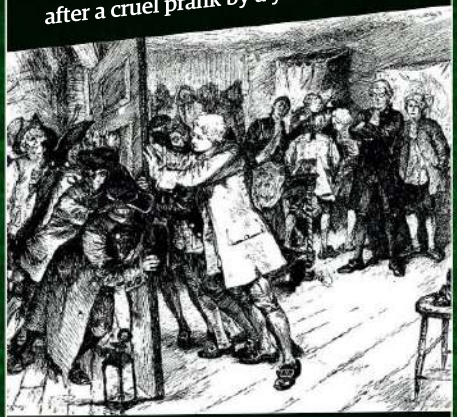
As body-snatching became increasingly prominent, protective measures were introduced to safeguard the dearly departed. One of the most common was a device called the 'mortsafe'. "They were mainly used in Scotland from around 1816 and had been adapted from the more rudimentary mortstone, essentially a coffin-shaped lump of rock placed over the grave at the time of burial," says Lennox. "Once it was realised that body-snatchers could access the corpse via the sides, iron skirts were introduced to the mortstone and the mortsafe began to take shape."

Yet these were not the only options for concerned mourners, there were other, more inventive forms of protection too. 'Coffin collars' were metal hoops latched around the neck of the corpse and bolted to the bottom of the casket. Or families could rent a space for their loved one in a 'morthouse', essentially a large stone storage shed that would be guarded. The body would remain here until it had rotted past the point of use for anatomists and would then be interred in the grave. Adverts could also be seen for metal coffins, such as "the only safe coffin is Bridgman's patent wrought-iron one," but easily the most outlandish of these protective measures was the 'grave gun'. This was essentially a gun (usually a poacher's rifle) rigged with a tripwire and positioned over a grave. In the United States such measures were taken to the extreme with the creation of the 'coffin torpedo'. This explosive device, invented by Phillip K Clover of Columbus, Ohio, was attached to the roof of the coffin and was designed to fire several lead balls into any would-be grave robber when it was struck with a spade.

It was between 1827 and 1828 in Edinburgh that perhaps the most infamous resurrection men operated, despite never actually stealing a body. The men in question? William Burke and William Hare. Their introduction to the world of the resurrectionists happened by accident when one of Hare's lodgers, known as 'Old Donald', died of natural causes but, crucially, without paying his rent. Seeking a way to recover the money he had owed them, Burke and Hare took his corpse to the medical school of the eminent Dr Robert Knox. Knox was so delighted with the body's fresh condition that he paid them the princely some of seven shillings. Realising that 'freshness'

WHY YOU SHOULDN'T WAVE DISEMBODIED ARMS AT YOUNG BOYS

In 1788 the citizens of New York turned against the medical establishment that for years had been pillaging its graves, after a cruel prank by a young student



Body-snatching wasn't just a British phenomenon and during the 18th and 19th centuries was just as common in the United States, where strict laws likewise caused a boom in demand from eager medical students for 'specimens'.

One day in New York in April of 1788, a group of young boys playing in the street happened to glance through a window and were aghast to see a medical student eagerly dissecting a corpse. Annoyed at being interrupted, the student waved a disembodied arm and remarked that it belonged to one of the boy's mothers. The problem was, the boy's mother had recently died and when his furious father discovered her grave to be empty, an angry mob descended on the hospital.

Seeing the outraged mob, most of the doctors and students fled but some stayed behind in an attempt to safeguard their valuable specimens, but to no avail. The crowd found a handful of undisturbed corpses and took them to the cemetery for proper burial.

Meanwhile, doctors and students were escorted to jail for their own protection, but the mob could not be tamed and hunted for any anatomist still at large in the city. They descended on Columbia School, ignoring pleas for peace from a desperate Alexander Hamilton. The students barricaded themselves inside and it was only when a group of militiamen opened fire that the crowd subsided.

This was just one of many riots that occurred due to the actions of the anatomists. For weeks on end following the events, groups of vigilantes patrolled the cemeteries at night, determined to protect the remains of their loved ones.

ABOVE-LEFT
An 18th century illustration of a dissecting room

ABOVE-RIGHT
A 1773 caricature showing the renowned anatomist Dr William Hunter caught in the act of stealing a corpse

was key, the pair began luring poor and vulnerable individuals to the lodging house and smothering them to death. The bodies were then taken to Knox who, due to a bad case of smallpox as a child, had only one good eye and seems to have shut this in regards to where his two suppliers obtained his specimens.

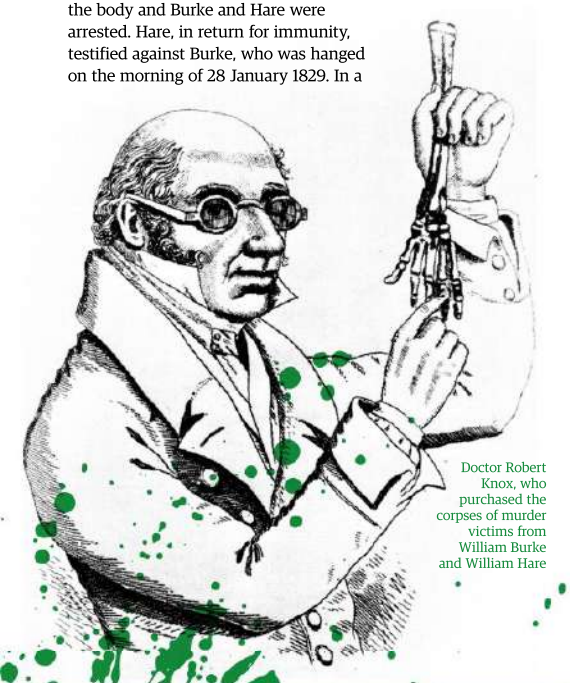
Eventually the pair were apprehended when they killed Marjory Docherty, a distant relation of both Burke and James and Ann Gray, a couple lodging at the house. After Docherty vanished one evening the Grays became suspicious and found her body hidden in a spare room. They went straight to the police, by which time Burke and Hare had moved the body to Knox's school. A search uncovered the body and Burke and Hare were arrested. Hare, in return for immunity, testified against Burke, who was hanged on the morning of 28 January 1829. In a final irony Burke's body, being that of a criminal, was sent for dissection. Knox escaped trial but failed to salvage a career that had been left in tatters.

Yet these infamous crimes were not the only murder scandal connected to the world of the resurrectionists. 'The London Burkers', perhaps more so than Burke himself, were arguably the driving force behind the Anatomy Act of 1832. Composed of John Bishop, Thomas Williams and the aforementioned James May, this trio did actually rob a few graves. However, they seemed to have been inspired by the events in Edinburgh and turned to murder, their crimes discovered in 1831 when they delivered the corpse of a 15-year-old boy of Italian origin to King's College School of Anatomy. The staff, becoming suspicious, reported the incident to the London Constabulary. During the trio's confessions, Bishop stated that they had murdered another boy and also a girl, which was corroborated by Williams. Describing the murder of the so-called 'Italian Boy', Carlo Ferrari, Bishop stated that the victim was actually from Lincolnshire and had been lured to their house with the promise of work. The duo proceeded to give the boy a cup of rum laced with laudanum, Bishop stating that: "I then took him in my arms and let him slide from them headlong into the well in the garden while Williams held the cord to prevent his body going altogether too low into the well – he was nearly wholly in the water of the well." Bishop and Williams were sentenced to execution, but May was granted a reprieve. "In his confession, John Bishop would admit to snatching over 1,000 corpses from London's graveyards," Lennox reveals. "He believed that nearly every resurrection man in London had attempted 'Burking' after hearing about the idea from the man in Edinburgh who gave the practice its name – William Burke."

It was following these events that the 1832 Anatomy Act was introduced in an attempt to regulate the supply of bodies to anatomy schools. But how successful it was is debatable. Historian John Knott, in his 1985 paper *Popular Attitudes to Death and Dissection in Early Nineteenth Century Britain*, says, "the Anatomy Act did not solve the problem of obtaining cadavers for medical students," and argues that while the Act may have curtailed the rampant proliferation of body-snatching, it meant that eager medical students obtained their 'materials' from poorhouses and hospitals instead. These were largely the bodies of the working classes.

However, despite the debatable success and morality of the Anatomy Act, the following decades saw body-snatching gradually decrease. Meanwhile authors such as Robert Louis Stevenson, with his 1884 short story *The Body Snatcher*, ensured that the resurrectionists would have an afterlife of their own as the subject of gothic and gruesome horror stories. The dark and sinister figure, stalking the graveyards with his trusty shovel in search of fresh bodies, became an icon of terror in its own right.

"DR ROBERT KNOX WAS SO DELIGHTED WITH THE BODY'S FRESH CONDITION THAT HE PAID BURKE AND HARE THE PRINCELY SUM OF SEVEN SHILLINGS"



Doctor Robert Knox, who purchased the corpses of murder victims from William Burke and William Hare

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EXPERT BIO

PROFESSOR ROBERT BARTLETT

Robert Bartlett teaches medieval history at the University of St Andrews. He has published numerous books on the Middle Ages, including *The Medieval World Complete*, *Trial By Fire and Water*, and *Blood Royal: Dynastic Politics in Medieval Europe*.

Royal Lineage

Historian Robert Bartlett reveals how royal dynasties shaped the politics of medieval Europe

Interview by Jessica Leggett

Monarchies were an essential part of medieval Europe. Royal bloodlines were central to political stability and the births, marriages and deaths of ruling families had the power to shape nations and change history. We spoke to historian Robert Bartlett, author of *Blood Royal: Dynastic Politics in Medieval Europe*, about the practices of royal dynasties, how they expressed their identities and the legacy of medieval dynastic politics today.

Why is the topic of monarchy so important?

I think it's important historically because, for a very long period of time, most of Europe was ruled by hereditary monarchies. The nature of power in those states was dictated by something that is much less important nowadays - the internal family politics of the ruling dynasties. If you want to look at human history, and particularly European medieval history, I think you have to take dynasties very seriously. You have to think about them as ruling families and as one of the things that explain the politics. Since you don't have it in the modern world, some people can forget about it and think that it's just not important or trivialise it - but I think that it should be absolutely central to the political analysis of medieval Europe. ▶

What did a dynasty need to do to be successful?

A dynasty is a biological as well as a political entity. They had to make sure that they reproduced and the search for fertile wives was a major preoccupation. Did they choose to marry aristocratic women from their own country or did they choose princesses from foreign dynasties? Those things were discussed explicitly in the past. There were consequences of these decisions, because if you have a marriage between the king and a noblewoman of his own kingdom, then her family were going to exploit that for their benefit. That could provide the king with supporters, but it could also provide him with challenges and upset the other aristocrats.

Getting a foreign bride was a different story. Royal women were often destined for foreign marriage from a very early age. These young girls were trained in the languages and customs of the country they were going to and sometimes they were sent there several years before they got married. There are heart-rending accounts of their homesickness and what it was like for a teenage girl to be taken away from her family and the country where her language is spoken, to be presented as a bride to someone she'd never met.

The need to reproduce had big consequences. In English history, the most famous example is Henry VIII. His first wife was Catherine of Aragon and she didn't produce a surviving male heir, so he wanted to get rid of her and get another fertile woman to perpetuate his dynasty. He had trouble with the pope about that and in the end we got the Church of England. So the Church of England is a fairly direct result of this need to reproduce.

Also, if dynasties wanted to survive then they had to defend themselves. In medieval kingdoms, highborn people fought themselves, they didn't usually delegate it, so they were trained to fight on horseback in armour with very dangerous weapons. They were brought up to have a very high opinion of themselves and to be obeyed. It was a world of male competition. Sometimes dynasties survived through fighting and killing their enemies.

BELOW The divorce of Henry VIII and Catherine of Aragon changed the course of English history

BOTTOM In England, the Wars of the Roses was fought between the descendants of King Edward III

> *"Even in countries where women didn't succeed, it was being discussed and accepted as a principle in many cases"*

Were there any medieval dynasties that were particularly successful in perpetuating their bloodlines?

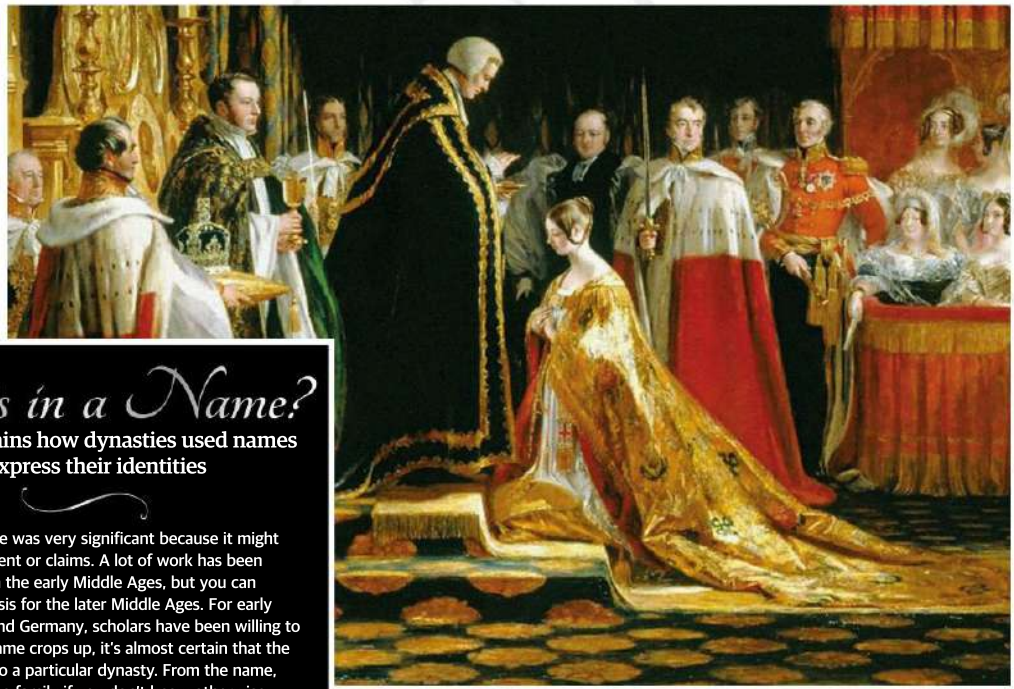
There's one unique example. The Capetian dynasty came to the throne of France in 987 [the first king was Hugh Capet] and every king from 987 down to the very last king, who abdicated in 1848, was a direct male line descendant of the dynasty's founder. I've come across no other example of that in my reading, although primarily my reading is in European history.

Sometimes dynasties hang on by going through the female line. A famous example is the Habsburgs because they were a line of father and son rulers, among the most powerful in Europe. But in the 18th century the line goes through a woman, Empress Maria Teresa. After that time the Habsburgs and the ones who ruled down to the First World War were not direct male-line descendants of the early Habsburgs.

But I think there's nothing like the Capetians and people noticed that at the time. Not only did the Capetians have this astonishingly long patriarchal link going over hundreds of years, but the transmission of power and succession was astonishingly successful given medieval conditions: it was bloodless and unchallenged. They go from 987 till the early years of the 14th century with direct transmission from father to son. Later on, other male rulers of the family are of male-line descent, but they are the cousins who take over. Still, it is an astonishing record.

What happened if a king had no legitimate male heirs? Was there a preference for the throne to go to the nearest male relative or were daughters allowed to inherit?

Both of those situations existed. There is evidence of people being willing to be succeeded by a woman. In the later Middle Ages, people tended to write down the rules of succession more than they had done earlier and there are quite a few instances where the succession of women is envisaged. Even in countries where women didn't succeed, it was being discussed and accepted as a principle in many cases. In Byzantium, there are three cases of ruling empresses and they're



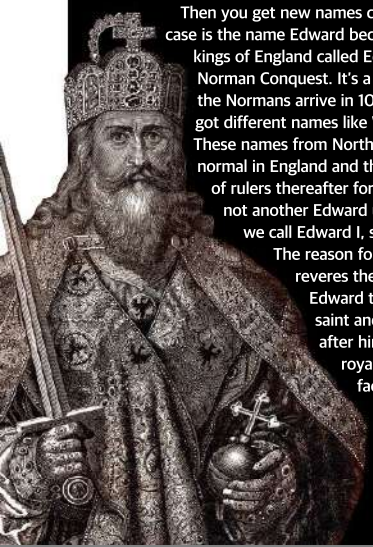
RIGHT With the accession of Queen Victoria, Britain and Hanover were no longer ruled by one monarch

What's in a Name?

Bartlett explains how dynasties used names to express their identities

The choice of name was very significant because it might indicate your descent or claims. A lot of work has been done on naming in the early Middle Ages, but you can do the same analysis for the later Middle Ages. For early medieval France and Germany, scholars have been willing to say that when a name crops up, it's almost certain that the person belonged to a particular dynasty. From the name, you can identify the family if you don't know otherwise.

Looking at the names of the rulers, Charlemagne is an interesting case. His grandfather is the first person we know of to be called Charles and it's not an aristocratic name. When Charlemagne's father becomes king of the Franks, this name is boosted up into a royal name. Charlemagne also gave his children the old names of the various Carolingian kings. From then on, if you do a family tree of the Carolingians, there are recurrent names and they're distinctively Carolingian. It's particularly clear if the Carolingians have illegitimate sons because they aren't given those names. You could identify whether someone is a legitimate or illegitimate son through their name.



Then you get new names coming in. A famous case is the name Edward because there are three kings of England called Edward before the Norman Conquest. It's a royal name, but the Normans arrive in 1066 and they've got different names like William and Henry. These names from Northern France became normal in England and they were the names of rulers thereafter for generations. There's not another Edward until the king who we call Edward I, son of Henry III. The reason for that is that Henry reveres the last Wessex king, Edward the Confessor, as a saint and he names his son after him. Edward became a royal name again and is in fact the most common name of the king of England or Britain.

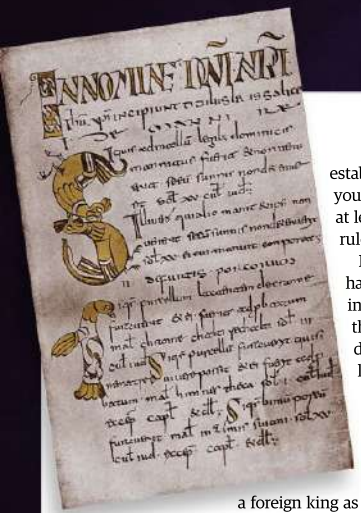
interesting. One of them calls herself Emperor in her documents, not Empress. Later in the Middle Ages, there's a case in Hungary where a woman called Mary succeeded to the throne and she is called King Mary.

But then there is the big counter-example, one that had consequences all the way down to modern times. In France, the Capetians had a very good record down to 1316 when Louis X died, leaving a daughter. Louis had some very ambitious younger brothers who wanted to succeed instead of the young girl. A coup occurred in which Philip, Louis' younger brother, became king and he needed some justification, so he said that the throne of France didn't go to women. His claim was a result of this particular political crisis, but that then became enshrined in French law and constitutional thought. People began to ask why doesn't the throne of France allow a woman and they eventually went back to the ancient laws of the Franks, cooked up a few documents and produced what they called the Salic law.

Salic law is shorthand for 'women cannot inherit the throne' and it's had consequences right up to the present day. When the Hanoverians became kings of Britain in 1714, for a long time Hanover and Britain were ruled by the same person. That was the case until 1837 when Victoria succeeded to the British throne because Hanover had at some point adopted Salic law, so Hanover and Britain split up. Can you imagine the history of the 19th century if the ruler of Britain had also been ruler of a huge chunk of northern Germany? What would Bismarck have thought about it? What about the First World War? That particular insistence that women could not inherit had its consequences right up until modern times.

What examples do we have of illegitimate sons inheriting the throne from their parent?

In the middle of the 14th century there is a savage struggle between the legitimate and the illegitimate sons of the king of Castile. It's often taken by historians as a change of dynasty when the Trastámara dynasty came into power. But, depending on how you define dynasty, Henry of Trastámara, who wins this struggle, is an illegitimate son of the previous king, so it's still male line transmission. The legitimate son was Peter, sometimes called Peter the Cruel. These brothers go to war and even the Black Prince gets involved, it goes international. In the end, Henry defeats Peter and kills him with his own hand,



ABOVE Salic law prevented women from inheriting the throne

establishing his dynasty – if you want to call it that – or at least his line as the new rulers of Castile.

In the same century, you have an illegitimate son inheriting in Portugal. In that case, Beatrice, the daughter of the previous king, takes power for a while. However, she married the king of Castile and the Portuguese don't want to have a queen with a foreign king as her husband. Just like in the case of Mary Tudor, who married Philip of Spain, a lot of the English were not very keen on having the future king of England, which he did. This is the exact situation in Portugal and the illegitimate son, John, actually raises opposition and there's a big fight between the Castilians and the Portuguese. John establishes the continuity of the previous house since he is the son, albeit illegitimate, of the previous king.

If there was more than one son, how did dynasties' family dynamics prevent conflict and sibling rivalries that put them at risk?

It was a good idea to have more than one son with child mortality being what it was. A famous example is Henry I of England. He had only one legitimate son, who was drowned in the wreck of the white ship in 1120, and then he tried to get his daughter Matilda recognised as heir.

But having lots of sons could also lead to dynastic instability because they might quarrel, band together against their father or establish separate lines that have claims to the throne. In the late 14th century, the kings of England and France have quite a lot of sons who survive. They have to be given lands and power because they fight among themselves and establish their own family lines. In both cases, the next 100 years of high politics were spattered with the blood of cousins killing each other, both in England and in France – France drifts into civil war and England has the Wars of the Roses.

When you have royal brothers you may deal with them ruthlessly, kill them and lock them up. That's done sometimes. The other way is to give them a recognised position and hope that they'll be happy enough with it. The great success story for that is St Louis [King Louis IX of France] and his brothers. They all had big estates and huge chunks of France were under

Female Regents of Medieval France

These women wielded power in a realm that denied them the right to be sovereigns

ADELE OF CHAMPAGNE

Adele, Louis VII's third wife, was the first woman to officially serve as a regent in France. In 1190, her son Philip II appointed her as regent of his son, the future Louis VIII, while he was away during the Third Crusade. She served as regent alongside her brother, Archbishop William of Rheims, until Philip's return in 1191.

BLANCHE OF CASTILE

Blanche became regent on behalf of her son, Louis IX, who was still a minor, after her husband, Louis VIII, died in 1226. She was regent for eight years, during which time she overcame aristocratic opposition and consolidated monarchical control over the realm. While he was away on crusade, her son appointed her regent once more between 1248 and 1252.

JOAN OF BURGUNDY

With the outbreak of the Hundred Years' War in 1337, Philip IV appointed his wife Joan as regent of France while he was away on military campaigns. She served as regent in 1340, 1345 to 1346, and 1347, proving to be a capable and politically active figure.

ISABEAU OF BAVARIA

Following bouts of mental distress, Charles VI appointed his wife, Isabeau, as guardian of their son and appointed her to the regency council in 1393. As Charles' mental health declined, Isabeau was named leader of the regency council. However, she also became embroiled in the civil war that resulted from the power vacuum caused by her husband's illness.

ANNE OF FRANCE

Also known as Anne de Beaujeu, Anne was named as regent of her young brother, Charles VIII, by their dying father Louis XI in 1483. She was the first sister of a king to serve as regent in France and she remained in that role for the next eight years. Known for being wise and shrewd, Anne was one of the most powerful women in Europe during her regency.

their power. They were given suitable status, authority and they all backed him. It could be done.

At the beginning of the 20th century, almost every European state was a monarchy. Why did some monarchies collapse while others survived?

In Europe, the monarchies that survive are northern-ish, usually mainly Protestant, and social-democratic. They're all countries where a transition has taken place to a constitutional monarchy without major upheaval. They've survived where they haven't really been a threat to a democratic order, and where people have not had to go to the wall to defend them against all the different forces that came along with industrialisation and the education of the masses.

Of course, the First World War undermined the imperial dynasties of Austria-Hungary and Germany. The Russian Revolution and the overthrow of the Romanovs came along when Russia was not doing very well in the war, even though in a sense it was on the winning side. Suddenly, the three largest empires, not to mention the Ottomans, which was a rather different cultural world but part of the same process, all went down. That left the Mediterranean and East European monarchies to face up to the challenge of whether they were going to allow democracy or not, and in many cases that struggle became violent. Spain is an oddity in the sense that the monarchy was restored, that's a very unusual case. It's not as if there's just one pattern. But I think it's generally the case that the countries that adopted social democracy are, you might think, paradoxically the ones that kept monarchies.

> "The next 100 years of high politics were spattered with the blood of cousins killing each other"

Do we still see the effects of medieval dynastic politics on Europe today?

The first and most important way is that lots of modern countries came into existence because of dynastic conflict and divisions. You didn't have France and Germany in the early Middle Ages, France and Germany came out of the division of Charlemagne's empire between his grandsons. Some countries are the product of dynastic unions. The United Kingdom is a classic example, where the separate kingdoms England and Scotland were united because of a Tudor dynastic marriage, which led to the succession of a Scottish king to the English throne. Another example is Spain, which came into existence because of the union of Castile and Aragon.

Another thing that is less important but quite visible is the visual and architectural monuments to this time. Heraldry is an invention of the 12th century, which is ideally suited to dynasties because it's a big visual statement of your descent. There are examples of heraldry all over the place, with the monuments and memorials to kings. In this country, we still have the monarchy and all the things that go with it. The monarch lives in Windsor, which has been a royal habitation for 1,000 years. You have some of the customs, the royal orders of knighthood and so on. You've still got visible traces of what used to be the main power pattern in medieval Europe for hundreds of years. ○

BELOW-LEFT
Hugh Capet was the first Capetian king and founder of the dynasty

BELOW-RIGHT
The Russian Revolution led to the overthrow of the Romanov dynasty

BLOOD ROYAL: DYNASTIC POLITICS IN MEDIEVAL EUROPE
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HISTORY OF COMPUTING

A BRIEF TIMELINE OF THE EVENTS THAT CREATED THE DIGITAL WORLD WE LIVE IN TODAY

Written by Timothy Williamson

The history of computers goes back over 200 years. At first theorised by mathematicians and entrepreneurs, during the 19th century mechanical calculating machines were designed and built to solve increasingly complex number-crunching challenges.

The advancement of technology enabled ever more-complex computers by the early 20th century, and computers became larger and more powerful.

Today, computers are almost unrecognisable from the designs of the 19th century such as Charles Babbage's Analytical Engine – or even from the huge computers of the 20th century that occupied whole rooms, such as the Electronic Numerical Integrator and Calculator.

Here's a brief history of computers, from their primitive number-crunching origins to the powerful modern-day machines that surf the Internet, run games and stream multimedia.

1801 Joseph Marie Jacquard invents a punch-card loom similar to early punch card computers.

1821 Swedish inventor Per Georg Scheutz and his son Edvard design the world's first printing calculator.

1848

1853

1890 Herman Hollerith designs a punch-card system to help calculate the 1890 US Census. The machine saves the government years of calculations and approximately $5 million.

1931 Vannevar Bush invents and builds the Differential Analyser, the first large-scale automatic general-purpose mechanical analog computer.

1936

1937 John Vincent Atanasoff submits a grant proposal to build the first electric-only computer.

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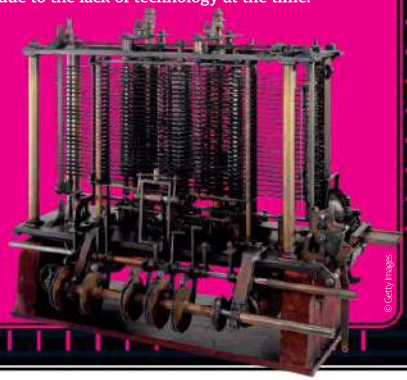
1821 THE DIFFERENCE ENGINE

English mathematician Charles Babbage conceives of a steam-driven calculating machine that would be able to compute tables of numbers. Funded by the British government, the project, called the Difference Engine, fails due to the lack of technology at the time.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1848 THE FIRST PROGRAMMER

Ada Lovelace, an English mathematician and the daughter of poet Lord Byron, writes the world's first computer programme. Lovelace does this while translating a paper on Babbage's Analytical Engine from French into English. Her annotations, which she calls 'notes', are three times longer than Babbage's original paper. Included is a step-by-step guide to the computation of Bernoulli numbers (a sequence of rational numbers often used in computation) with Babbage's machine, an algorithm that makes her the first computer programmer.

© Getty Images

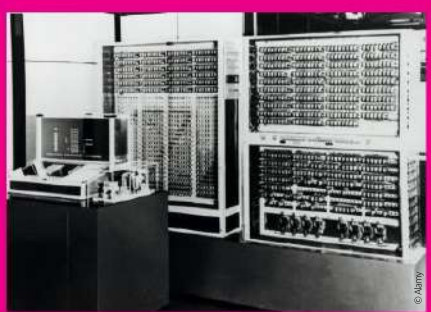
1936 THE TURING MACHINE

Alan Turing, a British scientist and mathematician, presents the principle of a universal machine, later called the Turing machine, in a paper called *On Computable Numbers*. Turing machines are capable of computing anything that is computable. The central concept of the modern computer is based on his ideas. Turing is later involved in the development of the Turing-Welchman Bombe, an electro-mechanical device designed to decipher Nazi codes during World War II.

2x © Alamy

1941 THE Z3 MACHINE

German inventor and engineer Konrad Zuse completes his Z3 machine, the world's earliest digital computer. The machine was destroyed during a bombing raid on Berlin during World War II. Zeuse fled the German capital after the defeat of Nazi Germany and later released the world's first commercial digital computer, the Z4, in 1950.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1939 David Packard and Bill Hewlett found the Hewlett Packard Company in Palo Alto, California.

1941 Atanasoff and his graduate student, Clifford Berry, design the first digital electronic computer in the US, called the Atanasoff-Berry Computer (ABC). This marks the first time a computer is able to store information on its main memory. It is capable of performing one operation every 15 seconds.

1941 First Colossus, designed by Tommy Flowers, becomes operational at Bletchley Park, cracking German Lorenz ciphers in hours instead of weeks. At Harvard University, the Harvard Mark 1 is completed by IBM, a room-sized, relay based calculator.

1945 John Mauchly and J Presper Eckert design and build the Electronic Numerical Integrator and Calculator (ENIAC), the first automatic, general-purpose, electronic, decimal, digital computer.

1947
William Shockley, John Bardeen and Walter Brattain of Bell Laboratories invent the transistor.

1953
Grace Hopper develops the first computer language, known as COBOL, standing for COmmon, Business-Oriented Language. Hopper is later dubbed the "First Lady of Software" in her Presidential Medal of Freedom citation.

1958
Jack Kilby and Robert Noyce unveil the integrated circuit, known as the computer chip. Kilby is later awarded the Nobel Prize in Physics.

1968
1969
Ken Thompson, Dennis Ritchie and other developers at Bell Labs produce the operating system UNIX.

1970
The newly formed Intel unveils the Intel 1103, the first Dynamic Access Memory (DRAM) chip.

1971
A team of IBM engineers led by Alan Shugart invents the 'floppy disk', enabling data to be shared between different computers.

1972

1968 GRAPHICAL INTERFACE

Douglas Engelbart reveals a prototype of the modern computer at the Fall Joint Computer Conference, San Francisco. His presentation, called *A Research Center for Augmenting Human Intellect*, includes a mouse and a graphical user interface (GUI). This marks the development of the computer from a specialised machine for academics to a technology that is much more accessible to the general public.

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1972 FIRST GAME CONSOLE

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Ralph Baer, a German-American engineer, releases Magnavox Odyssey, the world's first home game console, in September 1972. Months later, entrepreneur Nolan Bushnell and engineer Al Alcorn from Atari release *Pong*, the world's first commercially successful video game.

1975 BIRTH OF MICROSOFT

The January issue of *Popular Electronics* highlights the Altair 8080 as the "world's first minicomputer kit to rival commercial models." After seeing the magazine, Paul Allen and Bill Gates offer to write software for the Altair, using the new BASIC language. On 4 April, they form their own company, Microsoft.

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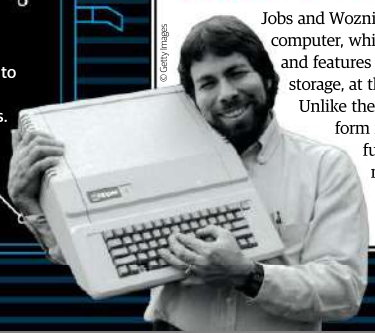
1977 THE APPLE REVOLUTION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Jobs and Wozniak present the Apple II computer, which includes colour graphics and features an audio cassette drive for storage, at the West Coast Computer Faire. Unlike the Apple I, which was sold in kit form for hobbyists, the Apple II is a fully formed personal computer, making the device accessible to everyone. By 1984, over two million Apple IIs are sold.

1973
Robert Metcalfe, in the research staff for Xerox, develops Ethernet for connecting multiple computers and other hardware.

1975
1976
Steve Jobs and Steve Wozniak co-found Apple Computer Company. The Apple I is the first computer with a single-circuit board and Read Only Memory (ROM).

1977
Radio Shack begins its initial production run of 3,000 TRS-80 Model 1 computers priced at $599. Within a year, the company takes 250,000 orders for the computer.

1977
1977
1979
MicroPro International, founded by Seymour Rubenstein, releases WordStar, the world's first commercially successful word processor.

1981
Acorn is released at a price point of $1,565. It uses the MS-DOS operating system from Windows. Optional features include a display, printer, two diskette drives, a game adaptor and more.

1983

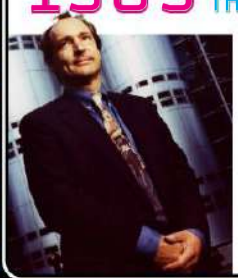
1977 SCHOOL COMPUTERS

The Commodore Personal Electronic Transactor (PET), is released onto the home computer market, featuring an MOS Technology 8-bit 6502 microprocessor, which controls the screen, keyboard and cassette player. The PET is especially successful in the education market.

1983 A MODERN INTERFACE

The Apple Lisa, standing for 'Local Integrated Software Architecture' but also the name of Steve Jobs' daughter, is the first personal computer to feature a GUI. The machine also includes a drop-down menu and icons. Also this year, the Gavilan SC is released and is the first portable computer with a flip-form design and the very first to be sold as a 'laptop'.

1989 BIRTH OF THE INTERNET



Tim Berners-Lee, a British researcher at the European Organization for Nuclear Research (CERN), submits his proposal for what would become the World Wide Web. His paper details his ideas for Hyper Text Markup Language (HTML), the building blocks of the Web.

2016 QUANTUM COMPUTING

The first reprogrammable quantum computer is created. "Until now, there hasn't been any quantum-computing platform that had the capability to program new algorithms into their system. They're usually each tailored to attack a particular algorithm," says study lead author Shantanu Debnath, at the University of Maryland.

1984 The Apple Macintosh is announced to the world during the Super Bowl. It's launched with a retail price of $2,500.

1985 As a response to the Apple Lisa's GUI, Microsoft releases Windows in November 1985. Meanwhile, Commodore announces the Amiga 1000.

1989 **1993** The Pentium microprocessor advances the use of graphics and music.

1996 Sergey Brin and Larry Page develop the Google search engine at Stanford University.

1997 Microsoft invests $150 million in Apple, which is struggling. This investment ends an ongoing court case in which Apple accused Microsoft of copying its operating system.

1999 Wi-Fi, the abbreviated term for "wireless fidelity", is developed, initially covering a distance of up to 91 metres (300 feet).

2001 Mac OS X, later renamed OS X, is released by Apple as the successor to its standard Mac Operating System.

2003 AMD's Athlon 64, the first 64-bit processor, is released to customers.

2004 The Mozilla Corporation launches Mozilla Firefox 1.0. The Web browser is one of the first major challengers to Internet Explorer, owned by Microsoft. During its first five years, Firefox exceeds a billion downloads by users.

2005 Google buys Android, a Linux-based mobile phone operating system.

2006 The MacBook Pro from Apple hits the shelves. The Pro is the company's first Intel-based, dual-core mobile computer.

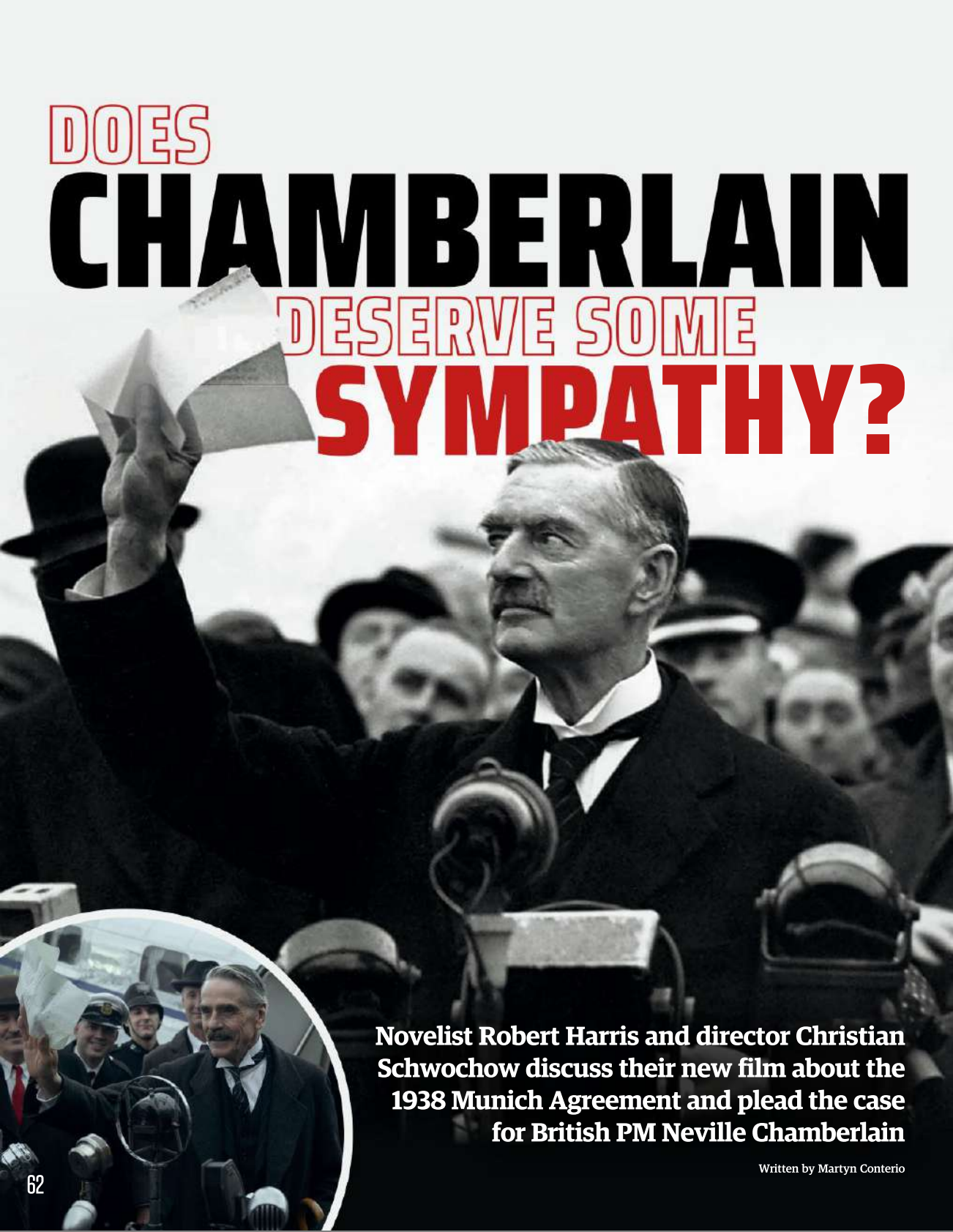
2010 The iPad, Apple's flagship handheld tablet, is unveiled.

2011 Google releases the Chromebook, which runs on Google Chrome OS.

2015 Apple releases the Apple Watch. Microsoft releases Windows 10.

2016

DOES CHAMBERLAIN DESERVE SOME SYMPATHY?



Novelist Robert Harris and director Christian Schwochow discuss their new film about the 1938 Munich Agreement and plead the case for British PM Neville Chamberlain

Written by Martyn Conterio

In late September 1938, British Prime Minister Neville Chamberlain met German dictator Adolf Hitler in Munich. This conference occurred as the Nazi ruler threatened a large-scale conflict in Europe with his aggressive policy known as Lebensraum (Living Space), where the German regime sought to colonise territories in the east. The conference resulted in the Munich Agreement and a promise of future consultations to resolve their differences. It was hailed by Chamberlain as "peace for our time" – words criticised almost as soon as he'd uttered them. The Munich Agreement proved to be worthless because it took less than a year for the Nazi regime to break its word, invading Poland on 1 September 1939.

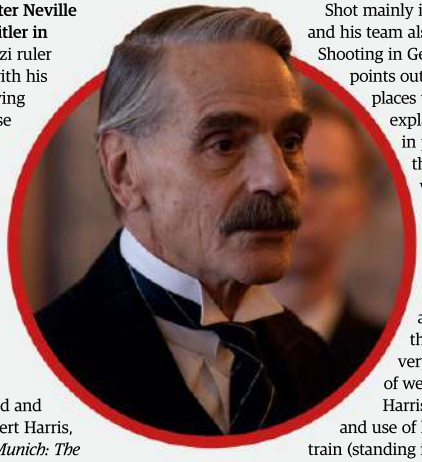
But did Chamberlain's infamous policy of appeasement towards Hitler actually buy valuable time for Britain and its allies? "I don't want to whitewash him, because in the end the policy failed and he had too much faith in his own ability," says Robert Harris, author of *Munich*, upon which a new Netflix film, *Munich: The Edge Of War*, is based. "He made a mistake saying 'peace for our time', but I don't know what else a British prime minister at that time could have done."

Christian Schwochow, a German national and the director of *Munich: The Edge Of War*, takes the same view as Harris: "I am for a man who believed in peace and who tried very hard not to waste so many lives by going to war. Hitler was a difficult man to make deals with and Chamberlain knew Hitler wasn't a man to rely on. I have sympathy for a man who believed in politics and diplomacy."

Harris undertook extensive research on the topic for his novel, which takes place behind the scenes of the events surrounding the Munich Agreement. His studies included reading Cabinet papers and delving into various archives. Harris has had a long-standing interest in the event, having presented a documentary for the BBC in 1988 to mark the 50th anniversary. He also began writing a version of his novel some 30 years ago, before his bestselling alternate history *Fatherland* (1992) – where Hitler wins the war – was published to acclaim. He set aside his early attempt at what was to become *Munich* as he couldn't break the spine of the story. "I'd always thought about writing a novel about a private secretary to Chamberlain flying on the plane to Munich, but I could never really get beyond that initial idea," he says.

Munich: The Edge of War crafts a fictional story around real-life events. It involves a German-speaking English translator, Hugh Legat (George MacKay) and an old Oxford friend of his, the English-speaking German translator on Hitler's team, Paul von Hartmann (Jannis Niewöhner), attempting to warn the British delegation of Hitler's warmongering plans via a top-secret document purloined from Nazi top brass.

One element included in the film that many might be unfamiliar with is the Oster conspiracy to overthrow Hitler. Led by Oberstleutnant Hans Oster, he and a coterie of military officers were convinced Hitler was dragging the country into a war it was unprepared for. While it features in the film, Harris was never convinced the plot was as serious as the better-known Operation Valkyrie. "It was only in the beginning of 1938, when Hitler started to commission plans for an attack against Czechoslovakia, that it started to crystalise into something a bit more serious," he says. "Chiefly, around the German Foreign Ministry, they were anti-Nazi elements. I don't think the conspiracy in the autumn of 1938 was particularly serious. They met and talked, but I can't see how they thought with 50 men they could take down Hitler."



ABOVE Jeremy Irons plays Prime Minister Neville Chamberlain in the new Netflix film

Shot mainly in the UK, including around Liverpool, Schwochow and his team also spent time in Munich, Berlin and Dresden. Shooting in Germany was problematic, however, as Schwochow points out. "It was difficult in Germany because many places were destroyed in the Second World War," he explains. Fortuitously, one very important building in particular survived and they were able to shoot there: Munich's Führerbau (Fuhrer's Building), where the film recreated the conference in the very same rooms as it occurred in real life.

"I was very happy to shoot at the Führerbau," the director tells us. "It's not a film set, it's the interior and exterior of the place where it all happened. The moment where they sign the agreement, it's the room in which they signed the agreement! That was magical to all of us and very... deep, in a way. To recreate that we felt a lot of weight and responsibility."

Harris was impressed by the strong production values and use of historic items, such as Hermann Göring's private train (standing in for Hitler's train). "They worked hard to make the period details accurate and the film benefits hugely from that," says Harris, genuinely full of praise for what the art design crews achieved. "You really get a sense of what the conference was like."

As ever with historical films, they both remind us of our past mistakes and resonate with the present. Harris sums up: "There's a moral responsibility on democracies to try everything they can for peace. If you do that, when a war comes you have the moral strength to believe your cause is just. What I take from Munich is it's right to keep on talking and to try to find some means of agreement, even with people you detest."

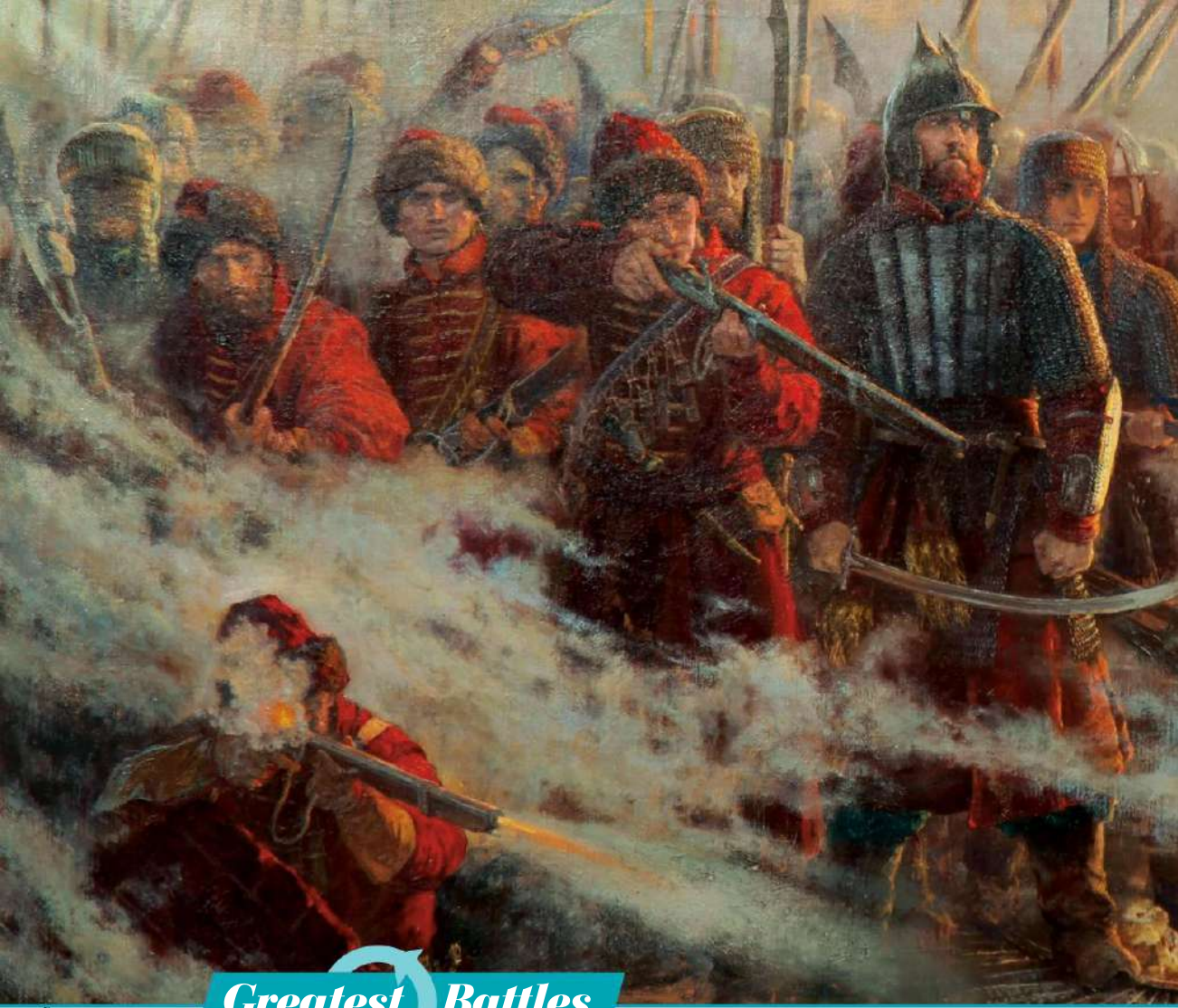
RIGHT Chamberlain meeting Adolf Hitler before the Munich Agreement

BELOW The film follows two assistants, old friends from university, who find themselves on either side of the Munich meeting

2x © Alamy

MUNICH: THE EDGE OF WAR IS AVAILABLE ON NETFLIX FROM 22 JANUARY 2022

3x © Frederic Batier / NETFLIX



Greatest Battles

BATTLE OF KLUSHINO

MUSCOVY, 4 JULY 1610

Written by William E Welsh

Polish hussars holding their lances upright emerged at dawn on 4 July 1610 from deep woods on the west bank of the Gzhat River 160km east of Moscow. In front of them lay their objective, a mass of tents for 36,000 Swedish and Muscovite troops and their camp followers that stretched towards the distant horizon.

Polish Grand Crown Hetman Stanislaw Zolkiewski, the elderly commander of the Polish field army, directed his staff to form work parties. They were tasked with smashing holes in the fence for the horsemen to pass through in order to assault the enemy camps. As he did so, the hussars that formed the core of his army arrayed themselves for battle. The men in the camps began to stir, and a regiment of Swedish mercenary arquebusiers raced forward to defend the fence line.

The Muscovite garrison at the fortress city of Smolensk fell to the Poles after a 20-month siege the year after Klushino

© Alamy

When all of his 5,500 hussars were on hand, Zolkiewski gave the signal for the attack to begin. Kettle drums rumbled and trumpets blared, and hussars poured through the gaps in the fence. The Swedish arquebusiers fired on the hussars at point-blank range but they could not stop the rushing tide of heavily armoured cavalry. One of the epic clashes of the Polish-Muscovite War (1605 to 1618) had begun.

TIME OF TROUBLES

Although a state of undeclared war had existed between the Polish-Lithuanian Commonwealth and the Tsardom of Muscovy since 1605, Polish-Lithuanian King Sigismund III Vasa did not actually declare war on Muscovy until February 1609. The catalyst for the war was Tsar Vasily IV Shuisky's decision to enter into an alliance with King Charles IX of Sweden in order to obtain military assistance.

Vasily IV ruled Muscovy during a protracted succession crisis that resulted in political anarchy known as the Time of Troubles. The succession crisis followed the death of Tsar Fyodor I in 1598. One of key events of the Time of Troubles was a series of three pretenders to the throne, each of whom claimed to be the Tsarevich Dmitry, the son of Ivan IV whose death as a child in 1591 had been shrouded in secrecy.

The first of the three pretenders, known as False Dmitry I, was believed to have been a defrocked Orthodox monk. He became a willing pawn of powerful Polish and Lithuanian magnates who wished to unseat Tsar Boris Gudonov, Fyodor's successor, and replace him. Backed by a private army of 3,500 Lithuanians and Cossacks, the first pretender invaded Muscovy in 1604.

When Gudonov died in April 1605, the Muscovites enthroned the first pretender as their new ruler. Tsar Dmitry I doled out prominent court positions not only to Polish and Lithuanian nobles, but also to Jesuit priests. After nearly a year of his pro-Catholic rule, the Eastern Orthodox Muscovites could no longer tolerate Dmitry I. In an uprising that unfolded in May 1606, Dmitry was deposed and slain. Prince Vasily Shuisky, who had led the revolt, installed himself on the throne, but he was unpopular with the majority of Muscovite boyars.

The next pretender, known as False Dmitry II, enjoyed support from Sigismund and the Polish monarch sent troops into Muscovy to support him. In addition, thousands of disaffected Zaporozhian

Cossacks from Ukraine flocked to his banner. The second pretender established a camp at Tushino, just 13km from Moscow, and his 18,000 troops soon began clashing with the tsar's army.

A CASE OF BAD BLOOD

As part of the alliance, the tsar agreed to allow Swedish General Jacob de la Gardie's 10,000 troops to use Novgorod as a base for their operations. The tsar desperately needed the Swedish troops and their Western European mercenaries because they were better trained and disciplined than his mostly second-rate troops.

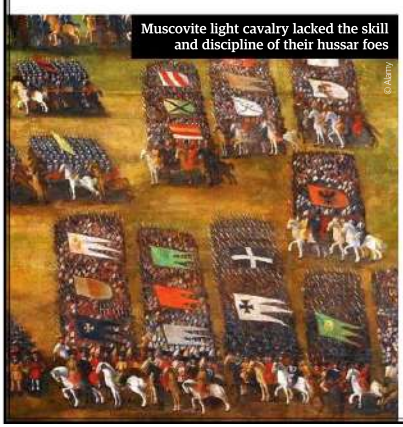
Bad blood existed between Polish King Sigismund and Swedish King Charles IX, who was his uncle. Sigismund had once held the thrones of both Poland and Sweden, but his residency in Warsaw coupled with his Roman Catholicism made him unpalatable to the Lutheran Swedes. Charles, who previously was Duke of Sodermanland, successfully overthrew Sigismund in a brief civil war in 1597-98. To avoid appearing as a blatant usurper, Charles ruled the country as regent for six years before finally taking the crown in 1604.

POLISH OBJECTIVES

Sigismund hoped to retake the fortress of Smolensk, the gateway city to eastern Lithuania, as well as the surrounding region known as Severia (composed of modern-day northern Ukraine and eastern Belarus). Muscovy had taken Smolensk from Lithuania in 1514. Sigismund thought that Smolensk would fall easily to his army, but he was wrong. He had been told by senior advisors that Mikhail Shein, the Muscovite garrison commander at Smolensk, was willing to hand over the fortress to the Poles. This was flawed intelligence, and Shein had no intention of doing any such thing.

Making matters worse, Gudonov had poured money into Smolensk to improve its defences. The Polish besiegers found they had to capture a well-defended fortress that boasted a 6.5km circuit of 11m high walls dotted with 38 watchtowers.

Sigismund arrived in September 1609 with 22,000 troops, most of whom were cavalrymen.



Muscovite light cavalry lacked the skill and discipline of their hussar foes

The winged hussars' menacing appearance terrified their opponents and spooked their horses

Because he did not expect a siege, he didn't bring heavy cannon with which to batter the fortress into submission. His attempts to storm it the following month were unsuccessful, leaving him little choice but to starve it into submission.

DIFFERENT TACTICS

Although the Poles might have struggled when it came to sieges, they had enjoyed great success in open-field battles against the Swedes during the Polish-Swedish War of 1600 to 1611. The most noteworthy of the many Commonwealth victories over the Swedes had come at Kircholm near the Latvian port of Riga in 1605. Lithuanian Grand Hetman Jan Karol Chodkiewicz had used the shock power of his hussars to smash a Swedish army led by Charles IX that outnumbered him three to one.

The winged hussars formed the backbone of the Polish army. Hussars were cavalrymen who wore armour to protect their heads and upper bodies and went into battle with long lances that outranged the infantry pikes of the period.

When their lances shattered, the hussars could quickly catch their sabres, which were secured to their right hands with a wrist knot. In addition, they also carried on their horses a palash (broadsword) and a koncerz (long thrusting sword). A hussar whose lance broke often used his koncerz as a backup lance by bracing its hilt against the pommel of their saddle. Affixed to the rear of their saddle was a painted strip of wood adorned with exotic bird feathers. This was the 'wings' of the hussar that made them look both magnificent and menacing.

Unlike the Polish army, whose strength was its hussar cavalry, the strength of the Swedish army at the time was its heavy infantry. Charles IX strove to have his army adopt Count Maurice of Nassau's cutting-edge tactics designed for heavy infantry.

Nassau's battle tactics called for a linear deployment, as opposed to the traditional infantry square, which would enable arquebusiers to fire volleys that would produce a broader field of fire. King Charles had sent De la Gardie to Holland to train under Nassau. As for the Swedish cavalry, it fought in the German Reiter-style using the caracole method. This called for each rank of horsemen in a formation to approach the enemy, fire their pistols, and ride to the rear to reload.

The inferior Muscovite army lagged behind the Swedes and the Poles, despite reforms introduced by Ivan IV in the mid-16th century. The Muscovite light cavalry fought largely in the style of Cossacks and Tatar, each horseman armed with a short spear, bow and sabre.

ALLIED FORCES UNITE

The Swedish troops, initially numbering 10,000, had arrived in Novgorod in early 1609. Shortly afterwards, they joined forces with a Muscovite army commanded by Mikhail Skopin-Shuisky, the tsar's nephew. By late spring 1610 the allied army had not only cleared northern Muscovy of rebel forces, but also driven the rebels out of Tushino. Prospects of success for False Dmitry II were fading fast, and he fled south in a desperate attempt to raise a new army among the Don Cossacks. Most of the Polish troops and Ukrainian Cossacks marched west. Some of these forces joined Zolkiewski's army, while others either joined Sigismund's forces at Smolensk or returned home.

Word reached Sigismund in June that a Muscovite army was marching to relieve Smolensk. He instructed Zolkiewski to take 3,000 troops, including two regiments of hussars, and march east to intercept and defeat the relief army. When the hetman reached Tsaryovo-Zaymishche midway between Smolensk and Moscow on June 22, he rendezvoused with three other hussar regiments operating in the area, as well as 4,000 Cossacks.

Meanwhile, a new Muscovite army commanded by Dmitry Shuisky, the tsar's brother, had assembled at Mozhaisk, 110km west of Moscow, for the purpose of relieving Smolensk. This army consisted of 21,000 Muscovite troops. De la Gardie, who had split off from Mikhail Skopin-Shuisky's army, was marching to join forces with the tsar's brother.

In preparation for a general advance towards Smolensk, Shuisky ordered his 5,000-strong advance guard to threaten the Poles at Tsaryovo-Zaymishche. When they came within 6km of the Polish-Lithuanian army, though, its conservative commander began entrenching.

The close proximity of the two armies prompted Zolkiewski to take steps to neutralise the enemy's vanguard. He sent the Cossacks to encircle the Muscovite advanced guards' camp and block any

communications with outside forces. Not long afterwards, Zolkiewski received word from defectors from the Swedish army that Jacob De la Gardie's army, which at that point was down to 5,000 troops after a year of hard fighting, was marching to rendezvous with Shuisky's main army. A short time later defectors from the ranks of the Swedish army arrived at the Polish camp. These foreign mercenaries, who were angry at not having been paid, informed the hetman of the movements of the Swedish and Muscovite forces.

Shuisky's main force and De la Gardie's expeditionary force rendezvoused north of Tsaryovo-Zaymishche near the village of Klushino. They advanced a few miles beyond Klushino and bivouacked on 3 July in separate but adjacent camps on the west bank of the Gzhat River. Shuisky failed to send scouting parties to locate the Polish-Lithuanian forces in the vicinity, and also didn't establish picket posts around his encampment to provide early warning of an impending attack.

DAWN ATTACK

Leaving 4,000 Cossacks and 700 hussars to contain the Muscovite advance guard, Zolkiewski issued orders for his troops to prepare for a night march on 3 July. They set out two hours before sunset that day with the intent of attacking the larger Swedish-Muscovite army at dawn.

If all went well, they would catch the enemy troops asleep in their tents and overrun their camps. Using local guides to speed their march, the Polish-Lithuanian column, all of which was mounted save for 200 arquebusiers and two falconets, rode 18km through the night to reach its objective. The two heavy falconets became mired in the mud on the march, and the teams transporting them fell far behind the main body of hussars.

The Polish army's deployment for the attack was much slower than was necessary to fully exploit the element of surprise, owing to the fence that initially impeded their advance. Zolkiewski arrayed his five hussar regiments with three regiments in the first rank and two in the second rank. He retained a few companies of hussars and a regiment of Cossacks as a reserve.

SWEDISH CAVALRY ATTACKS

The right regiment of winged hussars steadily wore down the less-disciplined Muscovite cavalry. Hussar tactics called for companies within a regiment to charge in successive waves. After ten charges, the Muscovite horsemen began to withdraw.

When the Muscovite cavalry withdrew, De la Gardie committed all of his mercenary cuirassiers to the fight. The battle grew in size and intensity as more Swedish units joined the battle. The hussars needed the firepower of their 200 arquebusiers and the two falconets that had not yet arrived to offset the fire of the Swedish arquebusiers.

The hussars on the left wing timed their charges against the Swedish pistol-firing cuirassiers so that they advanced against them between volleys.

POLISH-LITHUANIAN COMMONWEALTH ARMY

Image source: wiki/Staatsgalerie Neuburg

SIGISMUND III VASA

While it was Sigismund's forces fighting at Klushino, his attention was mostly focused on the Siege of Smolensk. Contemporary accounts placed more emphasis on his victory there, but the blow struck at Klushino aided his efforts immensely and may have been more significant.

Image source: wiki/mdt

STANISŁAW ŻÓŁKIEWSKI

With victories against Sweden, Muscovy, the Ottoman Empire and the Tatars, Żółkiewski's reputation as a great Polish commander was well-earned. Klushino proved to be his greatest victory, however, which led to the occupation of Moscow from 1610 to 1612.

SWEDISH-MUSCOVITE ARMY

© Getty Images

DMITRY SHUISKY

The younger brother of Vasily IV of Russia was put in charge of the army despite having a poor track record in command when the pair were defeated by the previous tsar in 1606. He continued to lose and at Klushino he was asleep when the battle started and ultimately captured by the Poles.

Image source: wiki/Esquilo

JACOB DE LA GARDIE

A count, statesman and soldier of the Swedish Empire, De la Gardie had joined up with Shuisky in order to bring an end to the Siege of Smolensk, only to be defeated at Klushino and see many of his men defect to the Polish cause. Despite this he enjoyed a successful political career in later life.

© Getty Images

GRIGORY VALUYEV

Believed to be the man who shot and killed False Dmitry I, the tsar who preceded Vasily IV, Valuyev was a favourite of the new ruler's court for understandable reasons. After defeat at Klushino, however, Valuyev swore allegiance to new tsar and future king of Poland Władysław IV Vasa.

As the fighting wore on, the hussars in the front rank of the army fought with their edged weapons having broken their lances.

The hussars began to charge the Swedish cuirassiers from two directions in an effort to disrupt them. Hussars using their koncerz as lances speared many of the Swedish cuirassiers, knocking their opponents dead to the ground and sending others to the rear clutching ghastly wounds.

As the fighting wore on, the hussar charges began to weaken in force due to the loss of lances and battle fatigue.

A DEADLY COMBINATION

Just as the Polish hussars were reaching a state of extreme fatigue, the Polish arquebusiers and falconet crews emerged from the woods. Zolkiewski ordered the artillerymen to blast apart the remaining sections of the fence line. He also directed the two companies of Polish arquebusiers get astride the right flank of the Swedish infantry and rake it.

As the Polish arquebusiers began to inflict casualties on the Swedish right regiment, Zolkiewski committed his reserve force of hussars. Advancing at a fast trot with levelled lances, they were supported by the hussars already engaged. The weight of the fresh attack broke the Swedish infantry and the survivors fell back to their camp.

With the Swedish foot and horse having withdrawn from the field of battle, the hussars regrouped and charged the front rank of Muscovite foot arrayed in front of their camp adjacent to the river. By that time, Shuisky and De la Gardie had exited the field in an effort to stem the panicked flight of some of the troops. Both commanders eventually returned, but by that time the surviving Swedish mercenary infantry had defected to the Polish side of the field.

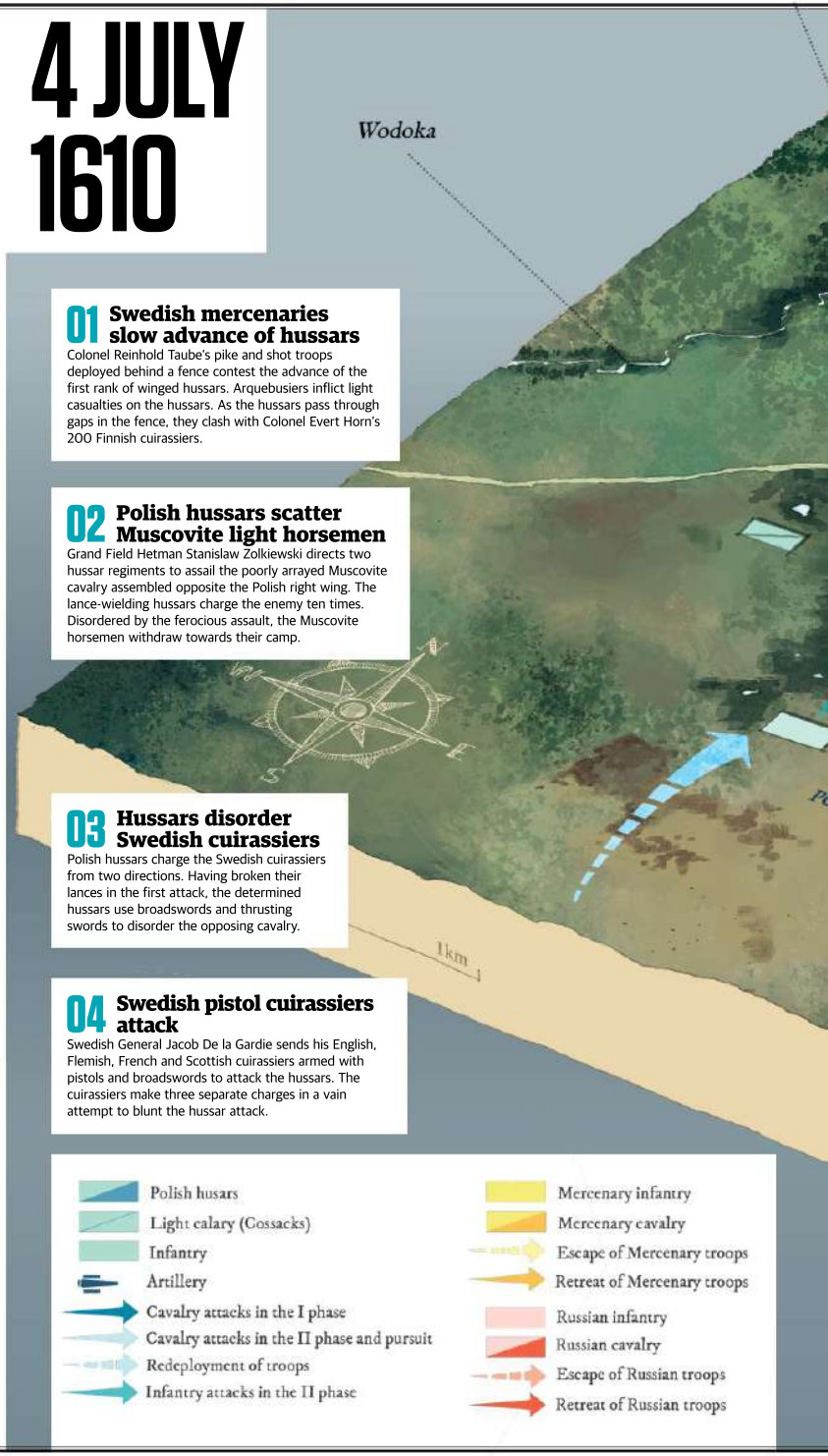
Shuisky ordered his troops to abandon their equipment and retreat east to Moscow. As for De la Gardie, he led the native Swedish troops in a long march north to Novgorod. The Polish suffered 300 killed and wounded at Klushino. For the Muscovite army, 2,000 were killed and wounded. As for the Swedes, they suffered 1,200 losses.

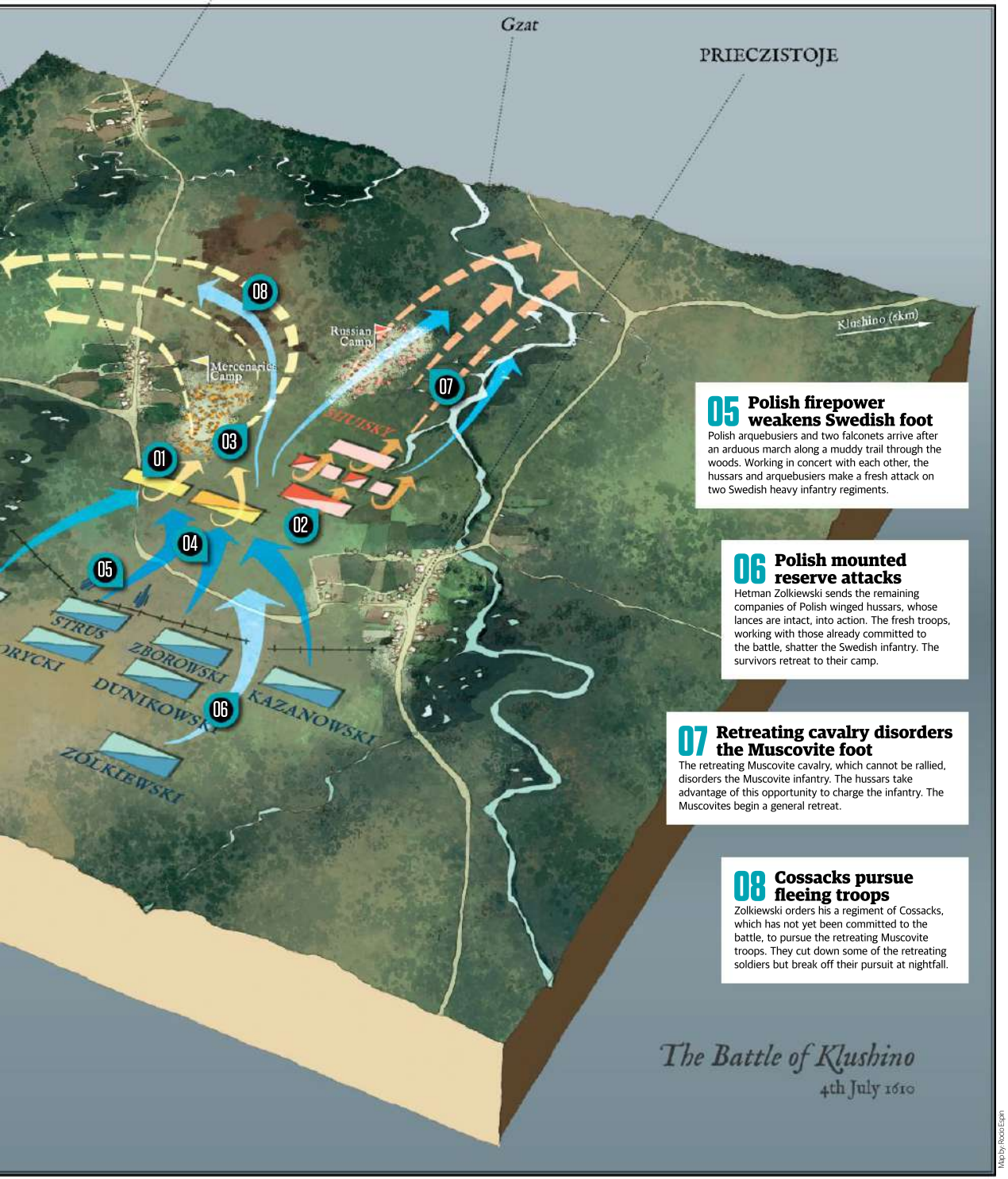
BLAME FOR THE DEFEAT

The unexpected arrival of the Polish army gave Shuisky little time to deploy his Muscovite army, and he therefore had directed De la Gardie to bear the brunt of the fight that day. Shuisky deserves a great deal of blame for failing to dispatch scouting parties or establish picket posts that might have uncovered the enemy's approach towards his encampment. As for De la Gardie and his mercenaries, they performed with great skill given the predicament in which they found themselves.

Although his army was outnumbered nearly six to one, Zolkiewski achieved a spectacular victory. Klushino was another very successful chapter in the ongoing sequence of Polish-Lithuanian hussar victories over the Swedes and the Muscovites.

4 JULY 1610


Wodoka
01 Swedish mercenaries slow advance of hussars
Colonel Reinhold Taube's pike and shot troops deployed behind a fence contest the advance of the first rank of winged hussars. Arquebusiers inflict light casualties on the hussars. As the hussars pass through gaps in the fence, they clash with Colonel Evert Horn's 200 Finnish cuirassiers.
02 Polish hussars scatter Muscovite light horsemen
Grand Field Hetman Stanislaw Zolkiewski directs two hussar regiments to assail the poorly arrayed Muscovite cavalry assembled opposite the Polish right wing. The lance-wielding hussars charge the enemy ten times. Disordered by the ferocious assault, the Muscovite horsemen withdraw towards their camp.
03 Hussars disorder Swedish cuirassiers
Polish hussars charge the Swedish cuirassiers from two directions. Having broken their lances in the first attack, the determined hussars use broadswords and thrusting swords to disorder the opposing cavalry.
1km
04 Swedish pistol cuirassiers attack
Swedish General Jacob De la Gardie sends his English, Flemish, French and Scottish cuirassiers armed with pistols and broadswords to attack the hussars. The cuirassiers make three separate charges in a vain attempt to blunt the hussar attack.
Polish husars
Light calary (Gossacks)
Infantry
Artillery
Cavalry attacks in the I phase
Cavalry attacks in the II phase and pursuit
Redeployment of troops
Infantry attacks in the II phase
Mercenary infantry
Mercenary cavalry
Escape of Mercenary troops
Retreat of Mercenary troops
Russian infantry
Russian cavalry
Escape of Russian troops
Retreat of Russian troops


BOGAJEWO
Gzat
PRIECZISTOJE
Klushino (6km)
Russian Camp
Mercenaries Camp
SHUISKY
STRUS
ZBOROWSKI
DUNIKOWSKI
KAZANOWSKI
ŻÓŁKIEWSKI
01
02
03
04
05
06
07
08
05 Polish firepower weakens Swedish foot
Polish arquebusiers and two falconets arrive after an arduous march along a muddy trail through the woods. Working in concert with each other, the hussars and arquebusiers make a fresh attack on two Swedish heavy infantry regiments.
06 Polish mounted reserve attacks
Hetman Zolkiewski sends the remaining companies of Polish winged hussars, whose lances are intact, into action. The fresh troops, working with those already committed to the battle, shatter the Swedish infantry. The survivors retreat to their camp.
07 Retreating cavalry disorders the Muscovite foot
The retreating Muscovite cavalry, which cannot be rallied, disorders the Muscovite infantry. The hussars take advantage of this opportunity to charge the infantry. The Muscovites begin a general retreat.
08 Cossacks pursue fleeing troops
Zolkiewski orders his a regiment of Cossacks, which has not yet been committed to the battle, to pursue the retreating Muscovite troops. They cut down some of the retreating soldiers but break off their pursuit at nightfall.
The Battle of Klushino
4th July 1610

Map by Rood Eisen

What If...

WOMEN HAD RULED IN ROME?

Would putting power politics and military muscle under a matriarchal royal family have brought stable government or bloody sibling civil war?

Interview by David J. Williamson

INTERVIEW WITH

© Jamie Drew

DR EMMA SOUTHON

Dr Southon is the author of *Marriage, Sex And Death: The Family And The Fall Of The Roman West*; *Agrippina: Empress, Exile, Hustler, Whore*, and *A Fatal Thing Happened On The Way To The Forum*. She also co-hosts the podcast, *History Is Sexy*

Ancient Rome was a world dominated by men, its history defined by rulers such as Caesar, Nero and Augustus. In contrast to this, most women found themselves subservient to the whims of their husbands or fathers, and were rarely – if ever – permitted to hold positions of public office. While there are examples of women who were able to wield power despite these restrictions (Fulvia, Claudia Metrodora and Valeria Messalina, to name just a few), the possibility of a Rome ruled by an empress and not an emperor opens up a world of possibilities. What if it was the wives and daughters of the emperors who held the reins of power?

What, if any, influence and power did women already have?

Female power in the Roman world was limited to social power and their ability to influence the men in their lives. The most powerful women we see in Rome are those who are either sui iuris, which means they are free from guardianship and are able to control their own financial interests, such as Livia after the death of Augustus, or those who are able to control their men, like Agrippina the Younger during her marriage to Claudius. But both those things were at the mercy of men, and could be taken away. Livia was still controlled by her son, who refused her certain honours and forbade her from having parties with men, for example. Agrippina lost everything when she became dependent on Nero. Women were always at a disadvantage in Rome.

What possible changes to politics could there have been under female rule?

With women in politics, issues deemed 'domestic' become much more political. As the family becomes a political space, we begin to see things like Claudius being criticised as a weak man because he cannot 'control' his household. With women in the public mix, even more domestic issues, like childbearing and breastfeeding, become politicised. Like men, women have to marry to attain political office and have children, keeping Rome's elite population up, and any inability to have children is scrutinised and used against them by political opponents. Empresses are under constant scrutiny about their sexual activity and fertility, which is everyone's business because it's the empire's business. There is no longer a private or domestic sphere that can be considered out of the public eye. A lot more politicians would die in childbirth.

Having women as rulers would also have potentially obliterated the fiction that the Roman imperial system wasn't a hereditary monarchy and stabilised Roman politics early on. With women as empresses, giving birth to the next ruler has a definite clarity, and everyone would probably have been a lot happier. Right at the start, Augustus could have left his throne to his only daughter Julia, and she to one of her children. The whole

© Alamy

RIGHT
The Roman Senate was very much a man's world

Main image sources: © Alamy, © Getty Images

THE PAST

509–27 BCE

SUFFERING IN SILENCE

Women in the Roman world had very little political power, and their economic power was limited by a very patriarchal social structure. Except in exceptional circumstances, women were perpetual minors in the eyes of law; they could own property and accumulate money, but could not dispose of it, sign contracts, appear in court, etc, unless they had the permission and signature of a male guardian who was a father, brother, husband or unrelated guardian appointed for them. This was still a serious limit on how powerful women could be, and the Senate was definitely a male-only preserve.

42 BCE

THE EXCEPTIONS TO THE RULE

Roman women did sometimes find their voice and shake off the mantle of male dominance, albeit briefly. In 42 BCE, Hortensia gave an impassioned speech in the Forum in defiance of the Triumvirate's plans to tax Rome's richest women in order to fund their military campaigns. Even more significant was the role played by Julia Agrippina (Agrippina the Younger). Through all the twists and turns of political survival, she was sister, wife and mother to successive emperors. She ruled equally in all but name with husband Claudius, then regent to her son, Nero. True power was within her grasp, only for her to be denied this – and her life – by her own son.

284 CE

THE *OTHER* WOMEN

Respectable Roman men needed wives who were chaste, moral and honourable. Even though it was a man's 'right' to indulge in what lower class women, prostitutes and slaves had to offer, wives were not afforded the same freedoms. There was even a dress code for moral status. Respectable women wore a long dress, or stola, a mantle (palla), and ties in their hair (vittae). Prostitutes wore a toga. As clear symbolism, and to embellish the male domination of society, a woman guilty of adultery would often be made to wear a toga.

thing becomes a lot less messy and ridiculous, and stabilises – at least until some siblings fall out.

Would the structure of Roman society have possibly looked different, and if so, how?

If female rulers mean that Rome is a monarchy again in all but name, this radically reshapes how the Senate works, its purpose and its appeal. In the real world, Romans told themselves that the Senate was still the most important political entity in the empire, and that it was necessary for men to have a political career within the Senate in order to be important. In reality, the emperor was an absolute monarch, the imperial household was the most powerful entity, and the Senators had no particular power unless they got together to do an assassination! This clash of ideas and reality caused a huge amount of strife and an awful lot of assassinations, beginning with Gaius Caligula. If Julia becomes Augusta after her father's death and the 'royal' succession kicks in, then the Senate would lose its prestige and focus relatively quickly as the only place to gain power.

With the rise of an imperial court and the demotion of the Senate to a parliament, Rome would become a more 'normal' monarchy, with all its attendant pros and cons. It might, however, prevent the rise of the imperial freedmen and the equestrians, which happened in the early empire. As the imperial house became a reality, but senators insisted on pretending that it hadn't, positions of real power and influence were filled by enslaved people, formerly enslaved people and equestrians who couldn't do politics. Had the senatorial class of great families instead become members of an imperial court and had positions like head of the empress's private army, head of the household, secretary of her treasury, etc, then the wealth and power of the empire could have remained concentrated among these families.

This also means that there is less political competition among the Roman elite, fewer attempts to buy public support with the building of theatres, baths, fora, basilicas and public spaces, and much more in the way of increasing a family's personal luxury with glorious private spaces like the Golden House, pleasure gardens, private theatres, baths, etc. This would drastically reduce the quality of life of normal people living in Roman towns and cities.

ABOVE
Agrippina the Younger had substantial influence but never real power

What different qualities would a female ruler have, and what could the potential impact be?

Romans highly praised rulers who pretended that they were just a normal bloke, humble and modest, and rejected luxury to walk with the senators. It was a fiction that the emperor was just another politician like them, even as they sacrificed to him as a god. Female rulers would force this to change. It would not be possible to pretend that an empress just happened to be the best man for the job of leading the senate. Humility and modesty make a monarch vulnerable (and walking with the senators often left them open to a quick stabbing in an alley, or their bedroom), and female rulers would instead lean into the other side of Roman rule, which was majesty.

A lot of 'bad' emperors relied on charges of maiestas (lese-majeste) to bolster a weak rule, allowing people to be prosecuted for everything from putting a statue of themselves on higher ground than a statue of the emperor to asking astrologers when the emperor would die. The tension between the emperor being majestic and humble often caused problems, and female rulers would be forced to abandon the humility part. They could instead lean into magnificent demonstrations of wealth and power – as Caligula and Nero did, for example – and maintain a dignified distance between the monarch and everyone else in order to protect the imperial family and the majesty of the imperial house.

Would Rome have remained an expanding, aggressive, military-based Empire?

Rome with female rulers is still a military empire, with all its pragmatism, but less aggressive. Roman expansion was driven by competition between politicians who were also military leaders. Politicians led invasions and expansionist wars in order to enhance their own wealth and political reputation. With women in politics, we'd probably see a split between political professionals and military professionals, with the military as a separate arm of the state, mostly because women cannot go marching off for long

years fighting Gauls or Persians, and also balance having children. But equally, there would be resistance to the idea that military success could overshadow the political careers and achievements of non-military individuals. What we'd see, then, is military achievements being divorced from politics and celebrated as their own thing. With military success no longer guaranteeing political success, the motivation for aggressive expansion for the sake of expansion is reduced, and Rome becomes a less pointlessly expansionist empire.

However, Rome is still a fundamentally militaristic and arrogant culture with a fragile ego, and any attempt to see this less aggressive Rome as a passive Rome would be very much mistaken. Any encroachment on Roman interests or land would be met with the overwhelming force of the Roman army, which would continue smashing things until the threat had been eliminated.

How might a female ruler have guaranteed her succession, and what challenges would they face?

This would probably be the easiest part for the first half. She would need to have kids. Roman culture was strongly family based, and what we would call nepotism was called good parenting and familial duty, so they would happily accept that a parent would give their children their role in life. They also firmly believed that children were enhanced by their parents, so having a royal parent would be enough for them to accept that a royal kid would be a good ruler. Even when they were pretending that they didn't live under a hereditary monarchy, they demanded that emperors offer them a clear successor who was ideally a family member, so they would happily have accepted offspring as successors.

There would have been two main problems. First, childbirth was incredibly dangerous. For every 1,000 babies born in the ancient world, as many as 25 women died (compared to 2/1000 in the modern world). With maternal death comes infant rulers, and the inevitable corrupt regents.

The second problem is that Roman law did not recognise primogeniture. All children inherited equally. So, for example, all six of Julia's children would have an equal claim to the throne, with war between siblings inevitable. An empress would need to either institute primogeniture all the way down, which would be incredibly unpopular (suddenly a lot of kids are inheriting nothing from their parents), or hope that her kids would behave themselves (historically unsuccessful) or divide the empire between the children, as the Frankish Kingdoms did, for example (this went badly for them). Either way, the empire and the succession would be destabilised in a whole new fun way, which involves a lot more civil wars.

LEFT
Roman women were thought to be either honourable or immoral

THE POSSIBILITY

14 CE

THE DIRECT ROUTE

Julia, daughter of Augustus, would have been empress instead of Tiberius, changing the entire Julio-Claudian succession. Augustus would have been able to bestow his rule of Rome upon his only child; and with a completely different bloodline through new rules of direct succession, the character and decisions of those replacing Tiberius, Caligula, Claudius and Nero may well have taken the Roman Empire down a very different road to the one we are so familiar with.

64 CE

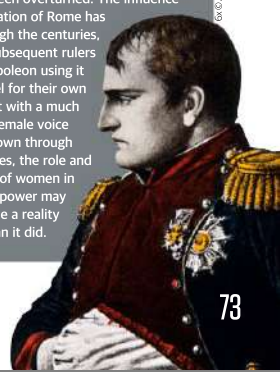
RESTING ON THEIR LAURELS

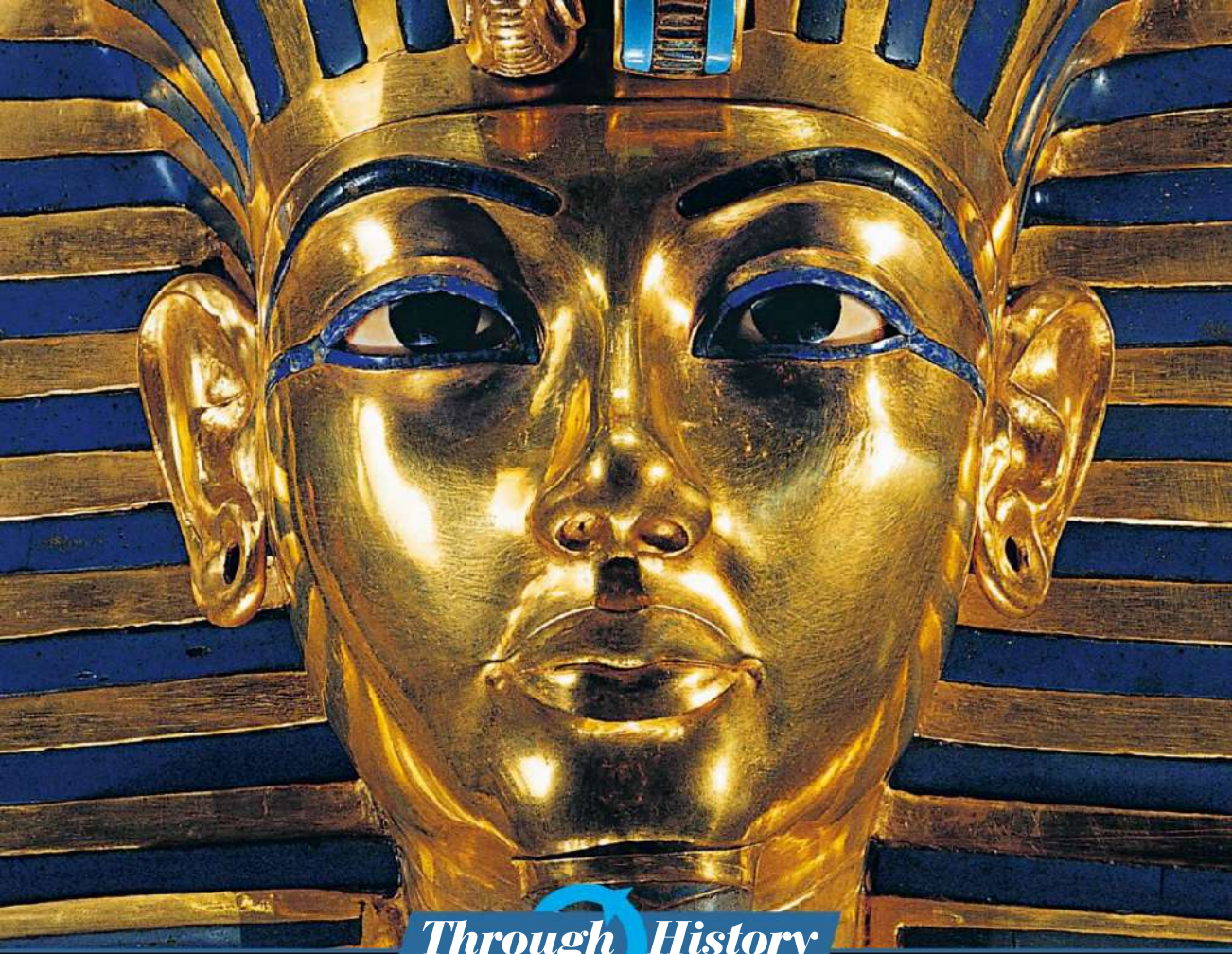
The emergence of an imperial court reduces competition for status among the Senate, and means that Romans spend their money building luxuries for themselves instead of amenities for the people. We would be left with an almost two dimensional legacy and archaeological record of the Roman Empire, with fewer theatres, baths and temples, and far more Golden Houses. With the introduction of a monarchy-style rule and succession, and the Senate powerless puppets, Rome as a shining example of 'democracy' would be deeply damaged.

395 CE–PRESENT

THE BALANCE OF HISTORY

The ownership of history as a male preserve may have changed. History has traditionally been written and recorded by men about men. But with female Roman rulers as role models, their words, actions and decisions recorded for posterity, this exclusive club may have been overturned. The influence and inspiration of Rome has carried through the centuries, with many subsequent rulers such as Napoleon using it as the model for their own empire. But with a much stronger female voice echoing down through the centuries, the role and perception of women in positions of power may have become a reality sooner than it did.





Through History

TREASURES FROM THE TOMB

In 1922 Howard Carter made one of the world's most famous archaeological discoveries: the final resting place of a young pharaoh

November 4th 2022 will mark 100 years to the day since archaeologist and Egyptologist Howard Carter discovered the entrance to Tutankhamun's tomb. The find captured the world's imagination, as did lurid stories of the 'Mummy's Curse' following the death of Lord Carnarvon, the expedition's financial backer. The unusual circumstances surrounding his demise just a few months after the tomb's discovery, and the unfortunate deaths of other members of the expedition (or those related to them) led to a revival of 'Egyptomania', with the general public obsessed with stories of long-lost tombs and ancient mummies.

The tomb's young occupant, 19-year-old Tutankhamun, ruled Egypt as pharaoh between c.1333 BCE and 1323 BCE. Largely forgotten by his successors, he is perhaps most noted for returning the worship of the god Amun to Egypt and restoring Thebes as the centre of the nation's religion.

Even nearly a century since his tomb's discovery in the Valley of the Kings, the mystique surrounding Tutankhamun remains. His burial mask is arguably one of the most identifiable images in Ancient Egyptian culture and his name remains deeply embedded within the public consciousness.

Now, *The Treasures of Tutankhamun* from Thames & Hudson presents a lavish and essential guide to the tomb, its discovery and all the astonishing artefacts and valuables it contained. Across the following pages we explore a number of these objects, along with their remarkable history.

Main images © DeAgostini/G. DAGLI ORTI/Diomedia

WAR CHEST

▲ This painted wooden chest is one of the most ornately decorated items found within the tomb. The remarkably detailed paintings showcase violent battle sequences as Tutankhamun fights the armies of the Nubians. Others showcase the pharaoh as a Sphinx, trampling his enemies.

©Universitätsbibliothek, Heidelberg

A THRONE FIT FOR A PHARAOH

▶ This throne is noted for its particularly ornate backrest, which depicts the young pharaoh being rubbed with perfume by his wife, Ankhesenamen. As their names are in their earlier forms, it is possible that the throne dates from before Tutankhamun reinstated the worship of traditional gods following Akhenaten's religious reforms.

©DeAgostini/S. Vannini/ Diomedia

MYSTERIOUS MANNEQUIN

▶ One of the more unusual items discovered in Tutankhamun's tomb was this wooden mannequin of the young ruler. Howard Carter believed that this may have served the purpose of modelling the king's clothes for him, though others think it may have been ritualistic in nature.

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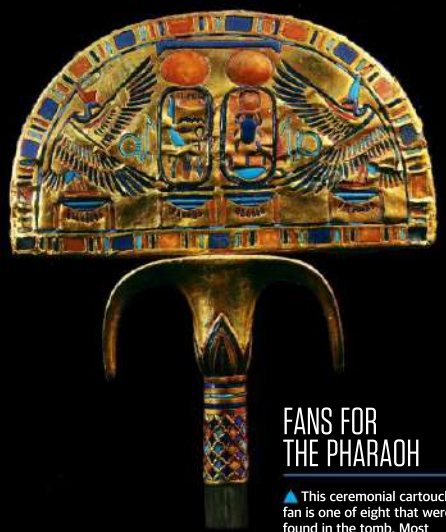


FANS FOR THE PHARAOH

▲ This ceremonial cartouche fan is one of eight that were found in the tomb. Most likely this would have been carried by attendants during religious ceremonies and used as a sunshade to protect the young king.

©Gianni Dagli Orti/Shutterstock

KING'S JEWELS

▲ This box is shaped like a cartouche, an oval with a line at the bottom surrounding symbols that indicate the name is that of a royal. This box had been opened by grave robbers but it still contained several important pieces of jewellery when it was discovered in 1922.

© Heritage Images/Fine Art Images/Diomedia

FUNERAL FOOTWEAR

◀ Unlike other pairs of sandals discovered in the tomb, this pair was most likely made specifically for the afterlife as they were found on Tutankhamun's feet.

©DeAgostini/S. Vannini/Diomedia

OH MUMMY!

▶ Tutankhamun's body was in a second coffin that was constructed out of wood and covered in gold foil. It is possible this coffin may have been intended for someone else as the face on it differs to the other. This is the second coffin shown as Carter discovered it.

© Metropolitan Museum of Art, New York

MAGIC MASK

Tutankhamun's mask is arguably the most famous item from the tomb. It was designed to be magical protection for the pharaoh during the afterlife and was constructed from solid gold.

© Werner Forman Archive/Diomedia

The Treasures of Tutankhamun
is out now from Thames & Hudson priced £12.99

REVIEWS

The books, TV shows and films causing a stir in the history world this month

© Pablo Larrain

SPENCER

Princess Diana endures the Christmas from hell with the Windsors

Certificate: 12A **Director:** Pablo Larrain **Cast:** Kristen Stewart, Timothy Spall, Sally Hawkins **Released:** Out now

Pablo Larrain's *Spencer* sets out its unusual modus operandi with a bit of introductory text stating what we're about to see is "fable from a true tragedy". A suitably fairy tale-style beginning, or is it a caution? For those going in expecting a melodramatic revision on recent British history, this won't be your cup of Earl Grey. Likewise, flag-waving patriots will be outraged by its portrayal of Queen Elizabeth and her immediate brood as remote, cold, ghost-like figures, Steven Knight's script being an argument for republicanism if ever there was one.

It's Christmas, 1991. Princess Diana (Kristen Stewart) drives to Sandringham in Norfolk for the annual Windsor get-together. She gets lost on the way, perhaps deliberately, having decided to drive there alone in her Porsche. Already, in the film's opening moments, Diana is set well apart from the Windsor clan and throughout its often-tense 110 minutes running time she can barely stand to be in the same room as them, constantly finding excuses to leave or delay being there. The queen requires Di to keep up appearances and play happy families. That she's in distress, on the brink of a mental breakdown, trapped in a loveless marriage and being gaslighted by Prince Charles, means nothing. All they care about is her not making a scene or – even worse – making newspaper headlines.

Spencer is an imaginative and bold take on three days in the life of a deeply unhappy woman. Shot and staged like a gothic horror movie, the use of grainy 16mm film lends the drama a febrile look. The soft-focus lighting is woozy, the framing often kept tight, while the shallow depth-of-field further induces a palpable mood of stifling claustrophobia. Diana flits about the Sandringham estate being constantly spied on by Queen Elizabeth and Prince Charles' lackies and finds succour in self-harm and shocking staff with lines such as: "Leave, I wish to masturbate." Her desire, deep down, this film suggests, was a longing to escape the aristocracy. In another scene, she lists the 'normal' things she enjoys, the types of activities the Windsors would find jejune or plain embarrassing, such as West End musicals, junk food, talking to the lower orders as equals.

Kristen Stewart delivers a career-best performance as the doomed princess, capturing deep-seated emotional vulnerabilities but also a fortitude in recognising she needs to leave the Windsor orbit in order to learn to live again. Neither does it present the 'people's princess', the saccharine phrase coined by Tony Blair in the days after her death, as perfect. Her reliance on the servants for comfort, to vent, is often forced upon them, no matter how much they like her or pity her, and she seems oblivious to her own privilege and hypocrisies. Still, this is what makes Pablo Larrain's *Spencer* unique and fascinating, its portrait complex, whether factually accurate or not. *Spencer* is Diana's life as a psychological horror film, which, undoubtedly at times, was precisely what it must have felt like. ***MC***

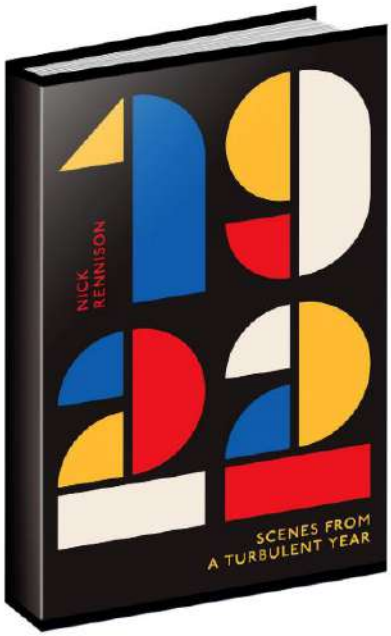
★★★★☆

Reviews by
Martyn Conterio, Catherine Curzon, Jonathan Gordon

1922: SCENES FROM A TURBULENT YEAR

A vivid recreation of a year that changed the world

Author: Nick Rennison **Publisher** Oldcastle Books **Price** £12.99 **Released** Out now



This a chronological journey through a year marked – even by modern standards – by ground-shaking upheaval. The events of 1922 changed history forever, and in many ways can still be felt today. From the fall of once-powerful empires to the arrest of Gandhi, via the dawn of the Jazz Age, the rise of Hollywood and the discovery of Tutankhamun's tomb, Nick Rennison's new book *1922: Scenes From a Turbulent Year* is a breathless ride through a year that never stopped to draw breath.

Rennison takes a chronological approach to his subject, with each month having its own chapter which is divided into a series of short sketches examining events that made the news and, in many cases, made history. It is a book to pick up and dip into, and will certainly give inquisitive readers a fantastic starting point if they want to do some research of their own and delve deeper into some of the stories the book touches on.

1922: Scenes From a Turbulent Year is a fast-moving and extremely readable book. It is a testament to the sheer amount of newsworthy incidents in 1922 that the book never feels padded out or laboured. Because of its bite-sized approach, some basic knowledge of the period might help readers understand the context of some of the events that are explored, but that's by no means essential. This is a book that will appeal to those with an interest in general history who are looking for a useful primer on the 20th century. ***CC***

★★★★☆

MAGNIFICENT WOMEN AND FLYING MACHINES

A rousing salute to the pioneering women of aviation

Author Sally Smith **Publisher** The History Press **Price** £20 **Released** Out now

Much has been written on the history of aviation and its visionary pioneers, but the vast majority of that focuses on a select group of men. *In Magnificent Women and Flying Machines*, Sally Smith redresses the balance and turns the spotlight on the trailblazing and inspirational women who chased their own dreams of flight.

From the first balloon ascent of Georgian England's Letitia Sage to Lady Mary Heath and Lady Mary Bailey's record-breaking long-distance flights in Africa, astronaut Helen Sharman and beyond, this book celebrates the women who defied both convention and expectation to forge new paths far above the earth. Smith brings the women vividly to life and examines not only their triumphs but also the challenges they faced in realising their ambitions. Some of the names are familiar but many will be new to all but the keenest of aviation history enthusiasts, and Smith gives each her time so shine.

This is a celebration of achievements that have been ignored for too long. Those looking to delve deeper into some of the stories Smith features will find plenty of places to start in the bibliography, and in addition to in-depth studies she includes potted histories of several other women who made their mark on aviation. *Magnificent Women and Flying Machines* should appeal to a broad range of readers, from aviation enthusiasts to those who just love a good story of trailblazers against the odds. ***CC***

★★★★★

History of Communism

"A spectre is haunting Europe – the spectre of communism." When Karl Marx and Friedrich Engels wrote those words in 1848 they were acknowledging that their newly minted social and economic philosophy was already seen as a threat to the capitalist world. Learn how Communism has incited revolutions, toppled regimes, and fallen itself in this collection.

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HISTORY WAR **RECOMMENDS...**

The Worst Military Leaders In History

Author John M Jennings & Chuck Steele **Price** £16.99 **Publisher** Reaktion Books

This book examines a rogues' gallery of military leaders from across history who may be judged to have failed as a result of their own errors rather than through the brilliance of an opposing commander. Some of them failed in terms of strategic vision and planning, some because of tactical ineptitude, and others as the result of serious flaws of character.

A BRIGHT SHINING LIE

A powerful examination of the Vietnam War and one of its important champions

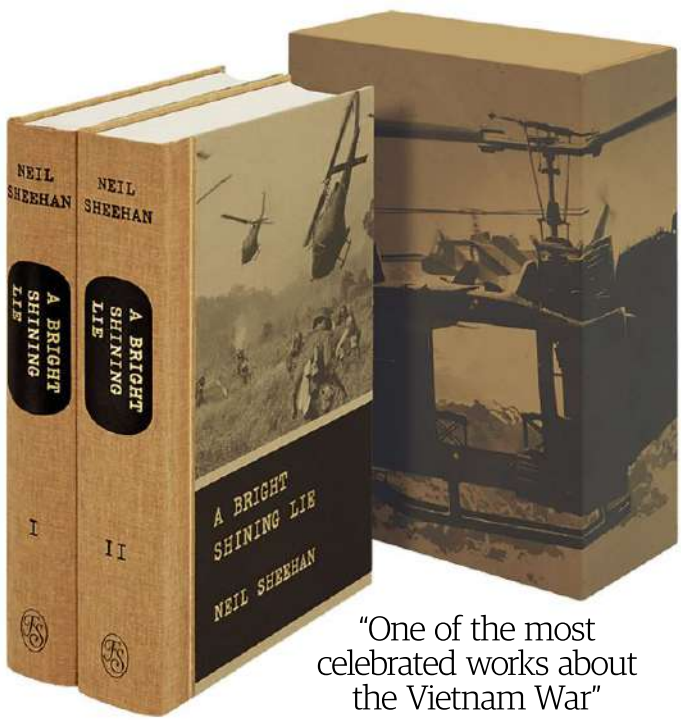
Author Neil Sheehan **Publisher** The Folio Society **Price** £125 **Released** Out now

Neil Sheehan's opus needs little introduction to those with some knowledge of military history writing. Originally published in 1988, *A Bright Shining Lie: John Paul Vann and America in Vietnam* is a Pulitzer Prize winning examination of America's involvement in the Vietnam War and biography of a key figure in his experience of the conflict, John Paul Vann. Sheehan was the journalist who originally published the Pentagon Papers with the *New York Times* in 1971, exposing the depth of involvement of the US government in Vietnam going back to 1945. *A Bright Shining Lie* is one of the most celebrated works about the Vietnam War, especially about the anger many Americans feel towards how it was led and managed.

Sheehan himself had been a relatively young journalist when he arrived in Vietnam to report on the war in 1962, not long after Vann, an Army lieutenant colonel, who advised the South Vietnamese infantry division south of Saigon from March 1962. Vann was a relatively unknown figure to the public, at least when this book was originally published, but a person very well known to the politicians, military and press connected with the Vietnam War. He had been an important point of contact for journalists in those early years, not least because he openly criticised America's approach to the conflict in Vietnam, especially its relationship with the South Vietnamese, who he saw as corrupt.

But Vann was no anti-war activist working from within. He was a true believer in the Vietnam mission, despite being clear-eyed about its follies and mismanagement. *Volume I* of this work tells the story of Vann as Sheehan had known him up to his resignation from the Army in July 1963, with the Pentagon seemingly determined to punish him for his willingness to question the manner in which America was waging the war in Vietnam. It recounts those early years, the growing sense of unease, and jumps back and forth between the smaller story of Vann and the wider picture of the war in America and on the ground.

Volume II begins with a deeper dive into Vann's life story, the man Sheehan came to discover through his research in later years, and then Vann's return to Vietnam as a civilian working for USAID. From here Sheehan tracks the steep decline into chaos and bloodshed, increasingly meaningless and unnecessary, but throughout Vann remains a believer. Sheehan reveals a portrait of a complex man, both revered by those who worked under him and saw him as an honest voice amid a sea of misinformation, but also duplicitous in his own right, hiding his true self from those around him to maintain his credibility. He might generously be described as flawed, much as the Vietnam War might generously be called ill-judged. As Sheehan states, Vann "had exemplified [the war] in his illusions, in his good intentions gone awry, in his pride, in his will to win".



"One of the most celebrated works about the Vietnam War"

As ever, this Folio edition is beautifully packaged and presented with maps and high-quality photographs, plus a new introduction by award-winning war journalist George Packer, suggested to Folio by Sheehan before he passed away in January 2021. ***JG***

★★★★★

HISTORY VS HOLLYWOOD

Fact versus fiction on the silver screen

BELLE

Director: Amma Asante **Starring:** Gugu Mbatha-Raw, Tom Wilkinson, Emily Watson **Country:** UK **Released:** 2013

Class, politics and race clash in this 18th century drama

VERDICT: A largely fictional account, but with a lot of accurate detail

01 We first meet Dido Elizabeth Belle as a young girl as her father, Sir John Lindsay, retrieves her after her mother dies. It's not mentioned, but he had at least three illegitimate children. He did leave her with his uncle, Lord Chief Justice William Murray, Earl of Mansfield.

02 Dido is raised as a gentlewoman alongside her cousin Elizabeth Murray, although the film depicts certain restrictions, such as Dido not being able to dine with guests on formal occasions. In reality her position was even lower, having menial jobs to do.

03 Dido's father dies, leaving her £2,000 a year (roughly £250,000 today), attracting the attention of the Ashford family for a potential marriage. Dido actually got nothing from Lindsay, but did get £500 and an annual income of £100 from Lord Mansfield when he died.

04 Lord Mansfield is handling the Zong case, an incident in which slaves were murdered. This case awakens Dido's activism and draws her closer to activist John Davinier, who is not a nobleman. He was actually a servant rather than a lawyer as the film depicts.

05 The movie closes with the reveal of a portrait of Dido and Elizabeth. Unlike other paintings of the era that featured Black people, in this Dido appears near-equal with her cousin. This is based on a real painting that hangs in Scone Palace, Scotland.

Main image: © Alamy
Sx inset image source: Fox Searchlight Pictures/Disney+

Did you know?

It is thought that the name panettone derives from the Italian word 'panetto', which means small loaf cake

Main image: Getty Images
Inset image: iStock

PANETTONE

A TIMELESS FESTIVE DELIGHT, ITALY, C.15TH CENTURY – PRESENT

Panettone is a sweet bread that originated in Milan. The exact date when it became associated with the holiday season is unknown, but evidence points to the 15th century. It may even date back to the Roman Empire, when a honey cake made from leavened dough was popular. Panettone is also the subject of numerous legends, for example the story of Ughetto, a 15th century Milanese nobleman who fell in love with Adalgsia, a baker's daughter. He began working at the bakery and developed the panettone recipe, which was a huge success. Panettone became a festive staple in Italy by the 20th century and is still eaten around the world today.

Ingredients

- 3 eggs, beaten
- 500g strong white bread flour
- 175g softened butter
- 100g golden caster sugar
- 75g raisins
- 75g sultanas
- 75g candied peel
- 150ml warm milk
- 3 tbsp dark rum or brandy
- 2 tsp fast-action dried yeast
- 1 tsp vanilla extract
- ½ tsp salt

To serve:

- 1 egg, beaten
- 2 tbsp flaked almonds
- Icing sugar for dusting

METHOD

01 In a small bowl, whisk together the milk and yeast. Set aside for a few minutes until the yeast activates and froths the milk. In a separate bowl, beat the sugar and eggs together until light and fluffy. Stir in the softened butter and vanilla extract until incorporated.

02 Sift the bread flour and salt into a large bowl. Make a well in the centre and add in both the yeast mixture and the egg and butter mixture. Fold the wet ingredients into the flour until a soft and sticky dough begins to form.

03 Knead the dough on a floured surface for about 10 minutes, until it is smooth. Place the dough in a lightly greased bowl and cover. Leave the dough to rise in a warm place for about two hours, or until it has doubled in size.

04 In the meantime, put the sultanas and raisins into a small pan with the dark rum and bring to a simmer. Heat gently and stir well for five to seven minutes, until the fruit has absorbed the rum. Set aside to cool.

05 Grease an 18cm/7in-deep cake tin and line with baking paper. Make sure some of the paper is overlapping the tin, as this will make it easier to remove the panettone later.

06 Once the dough has risen, place it onto a floured surface. Knead for about a minute, and then knead in the candied peel and soaked fruit until they are evenly distributed.

07 Form the dough into a smooth ball and place it in the lined cake tin. Cover and leave the dough to rise for about an hour, until it has doubled in size again.

08 Preheat the oven to 180°C/160°C Fan/Gas mark 4. Brush the top of the panettone with the beaten egg and sprinkle with the flaked almonds. Bake for about 50 to 55 minutes or until it's golden brown. Once baked, transfer the panettone to a cooling rack.

09 Once cool, dust with icing sugar and cut into wedges to serve. Enjoy with the hot drink or alcoholic beverage of your choice!

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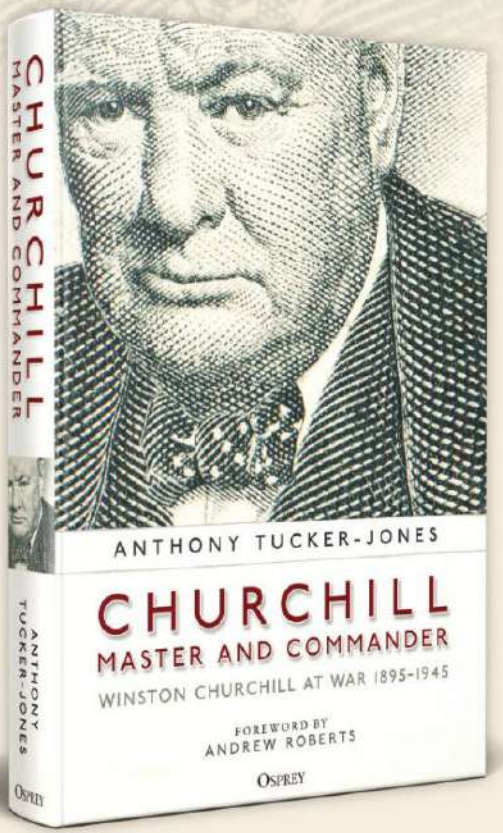
CHURCHILL
MASTER AND COMMANDER

WINSTON CHURCHILL AT WAR 1895–1945



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